EPA United States Environmental Protection Agency

User Guide

Air Quality System

2002

US Environmental Protection Agency
Office of Air Quality Planning and Standards
Information Transfer & Program Integration Division
Information Management Group
Mail Drop C339-04
Research Triangle Park, NC 27711

We have inherited new difficulties because we have inherited more privileges.
-- Abram Sacher

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Chapter 1 - Introduction

What is the Air Quality System (AQS)? The AQS is the system administered by the US Environmental Protection Agency (EPA) used to assess the status of the Nation's air quality. The system includes a repository of ambient concentrations of air pollutants and associated meteorological data as well as the software used to add and maintain this data.

1.1 PURPOSE

This document explains the fundamental use of the automated AQS system implemented in 2002. It does not cover the regulations that require the reporting of the data, nor the various monitoring equipment used. Details for coding data input is covered in the Data Coding manual. A Data Dictionary manual is also available to further define the data used in the system.

AQS 2002 represents a major change in the way air quality data is reported to the EPA and improves the retrieval of such data once it is in the EPA's AQS database. Data submitters (state, local, and tribal agency personnel) now have more control over updates to their data. Those interested in analyzing the data have the benefits of a relational database, including the use of other database software, such as Oracle Discoverer, to analyze the information.

1.2 OBJECTIVES

There are at least two basic types of users of AQS: those who enter data into the system and those who use the data for analysis. Those in the "input" group will find the chapters on data input and maintenance the most useful; those in the "retrieval" group will want to concentrate on the chapters on browsing and retrievals. **All users** will need to refer to the Administration and Setup chapter.

1.3 CREATION OF THE AQS DATABASE

The final update to the "old" AQS database (located on the EPA mainframe) was completed December 19, 2001. The "new" AQS database was created by extracting data from that database. All site and monitor records were loaded. Initially, sample values for the years 1998 through 2001 were loaded into the new database. Once that was completed and validated and summary data for those years recalculated, the "new" database was available for use. The sample values and summary data for the remaining years were added as they were converted and validated until ten years of raw data were loaded (1991 – 2001). The data for the remaining years was converted and loaded into a separate archival database. Summary data for these remaining years was added to the "new" AQS database.

The resulting "new" AQS database contains

- all site and monitor data,
- the last 10 years of raw data, and
- all the summary data for all years back to 1957.

All calculations were redone with the new software. These calculations include:

(1) the block and running average records for carbon monoxide, sulfur dioxide, ozone, PM10, and PM2.5,
(2) the new daily summary records for all data,
(3) all percentiles and 10 yearly maxima and time of occurrence, and
(4) the quarterly and annual summary records for the complete database.

1.4 HELP

The AQS application includes online help. This User Guide, together with the Data Coding and Data Dictionary manuals are your first source for help. Appendix A of this User Guide includes screen prints of most menus, definitions of icons and a glossary of terms.

The AQS Hotline, a.k.a., the EPA Technical Support Center, is available at 1-800-334-2406 or 919 541-7862. Their hours are 8:00am – 5:00pm Eastern time. They will provide assistance with installation support for both the AQS application and SecuRemote as well as password problems. The Hotline should also be your initial contact for any user problems. They will log and track the problem and resolution of all application problems.

A Listserver has been established for use by the AQS user community. Please feel free to use the listserver to make comments and suggestions. Your questions, comments and suggestions may help someone else with a similar problem as well as provide EPA with a better feel for problems in using the application.

You may subscribe to the AQS-R discussion group at any time by sending the following in the body of an email message to listserver@unixmail.rtpnc.epa.gov:

subscribe Listname FirstName LastName

where Listname is AQS-R and FirstName is your first name and LastName is your last name (i.e., **subscribe AQS-R Joe Smith**).

If you want to stay abreast of the discussions, but do not wish to receive the stream of questions and responses that this list may create, you can request to receive only the daily digest of the discussions. You do this by sending the following message:

set AQS-R mail digest

to listserver@unixmail.rtpnc.epa.gov.

You may unsubscribe at any time by sending the following message:

unsubscribe AQS-R YOUR NAME

to listserver@unixmail.rtpnc.epa.gov.

To post a message to the AQS-R listserver, send email to:

AQS-R@unixmail.rtpnc.epa.gov

Chapter 2 – Administration and Setup

2.1 Accounts, UserIDs, and Passwords

EPA security directives require each user needing access to EPA computer services be registered in accounts based on the type of access required. EPA Headquarters and Regional Offices establish these accounts using the TSSMS system for each agency in their region. These separate agency accounts also serve to provide security of the data for each agency.

As a result of the security requirements of both the EPA and the AQS application, AQS users who will perform updates to the AQS production database must be included on at least three accounts:

- AQS proxy server (Volcano) for transferring files to EPA, i.e., FTP'ing data
- AQS UNIX server (Canyon)
- AQS Oracle database (AQSProd)

Users outside the EPA firewall must also have a SecuRemote account with EPA.

Your Userid for each EPA account is the same 3-character id. Beginning with version 2.1 of the AQS client software, passwords for the AQS database (AQSProd), and the two UNIX servers (Volcano and Canyon) may be synchronized. Passwords must be changed every 90 days.

The TSSMS program at the EPA computer center automatically generates and mails each user a record of each account name, userid and initial password for which the user is granted access via TSSMS. If 90 days or more have passed since you received your notice for Volcano or Canyon, you will need to call the Hotline to have your password reset prior to your first use of the AQS.

An AQS application manager assigned each user's initial password for the AQS Oracle database (AQSProd). This password was set for all known users approximately January 30, 2002. If more than 90 days pass before you access the AQSProd database, you will need to call the Technical Support Center to have your AQSProd database password reset.

2.2 Installing AQS Software

System Requirements/Recommendations:

Platforms:	Windows 95, 98, ME, 2000, NT
Disk space:	38MB for installation files that may be deleted after installation 105MB for AQS Client and Oracle files necessary to run the client 1.15MB for WS_FTP LE 3.10MB for SecuRemote (both AG and PA) Additional space will be needed for data files
Processor:	Pentium 120mHZ (600mHZ or better recommended)
Memory:	32MB (64MB or more recommended)
Connectivity:	Internet or EPA WAN
Video Card:	SVGA (800X600 resolution) or XGA (1024X768 resolution) or better
Display:	256 colors or better

The AQS installation files are available for downloading from this web page:
http://www.epa.gov/ttn/airs/aqs/software.html

The AQS client software is named **aqs_v*xxx***.exe, where "*xxx*" indicates the version of the client software. There are many files from Oracle needed to run the application. These "runtime" files are available as one large zipped file. If you are unable to download these files, contact the AQS team to request a CD with the files or to have the files broken down into smaller files and emailed to you.

Two other products you may need are also available from the web page. They are not part of the actual AQS application.

1. **WS_FTP LE** is the limited edition version of a file transfer program that is incorporated into the AQS application. The "FTP" button in the AQS application will call WS_FTP LE *if* you have it installed to its default directory.

2. **SecuRemote** is a security product that must be installed before you will be able to access an EPA server from outside the EPA network.

If you installed versions of the AQS client software as part of the beta testing, please delete the directory containing that software from your PC. (The default directory was C:\aqs. Remove the entire directory, including any subdirectories.)

Installation instructions are available on the web and below.

Step 1: SecuRemote.

If you will be accessing the AQS application from outside of the EPA network (i.e., from a PC not part of an EPA LAN) you must use the SecuRemote client software. If you will be accessing AQS from within the EPA network, skip to Step 2.

We have been advised that SecuRemote does not work with America OnLine (AOL), CompuServe, or any other internet service provider that uses proprietary client software. In addition, if you are behind a firewall, your network personnel may need to modify settings on your firewall to allow access with SecuRemote. Please follow the instructions at http://www.epa.gov/ntsd/securemote/. Instructions for changing your SecuRemote password are also found at this site.

Once you complete the SecuRemote installation, you should see this icon in your system tray:  . SecuRemote is setup to run automatically every time you start your PC.

Step 2: Download

Each file listed below may be downloaded from the TTN AIRS AQS area on the EPA web site: www.epa.gov/airs/aqs/software.html. (If you are not able to download large files, contact EPA for assistance with smaller files.) Note the directory you use for downloading.

AQS: aqs_v*xxx*.exe ("*xxx*" indicates the version of the client software.)

Oracle: oracle6i_runtime.exe

FTP: If you do not currently have FTP software installed, and are a Federal, State, or local government employee, download the "LE" version of WS_FTP from the aqs software page or from Ipswitch at http://www.ipswitch.com/. From the Ipswitch site, click on Download Evaluations, complete the contact information and select WS_FTP LE from the product list.

According to the license for WS_FTP Limited Edition,

"Ipswitch grants you a non-exclusive license to use the Software free of charge if a) you are a student, faculty member or staff member of an educational institution (K-12, junior college, college or university); b) you are a United States federal, state or local government employee; or c) your use of the Software is exclusively at home for non-commercial purposes. Government contractors are not considered government employees for the purposes of this Agreement. If you do not meet the requirements for free use of the Software, you may use the Software for up to fifteen days for the purpose of evaluating whether to purchase a license to the commercial version of WS_FTP."

(The full text of the license is available from the Ipswitch web site.)

Step 3: Install

Both the **aqs_v*xxx*.exe** and **oracle6i_runtime.exe** must be run to install the AQS client. These files are self-extracting. Run them by either double click on the file name from within Windows Explorer or click on Click **Start**, click **Run,** and In **Open** type the location and name of the "exe" file you want to start (or use the Browse button to navigate to it), and click OK.

Run the oracle6i_runtime.exe file **even if you have other Oracle software** on your PC. Nothing will be changed in your registry or other Oracle directories.

By default, all files will be installed on your C: drive to a directory named "aqs". If you must install to a different drive, you will need to make changes to the run_aqs.bat file to reflect this change. Contact EPA if you need assistance making these changes.

The AQS installation file (**aqs_v*xxx*.exe**) will create the aqs directory and unzip all files to C:\aqs. Close the WinZip Self-Extractor window after all files are unzipped.

Figure 2-1

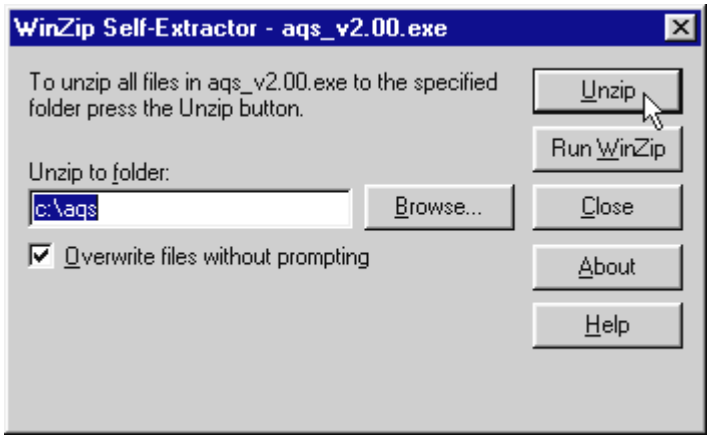


Figure 2-2

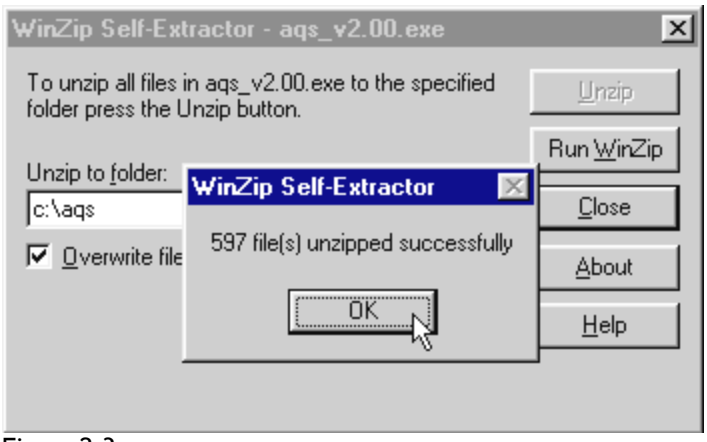


Figure 2-3

The Oracle runtime installation file (**oracle6i_runtime.exe**) will unzip all files to C:\aqs\oracle.

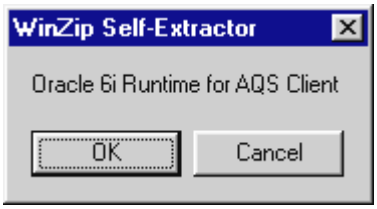


Figure 2-4

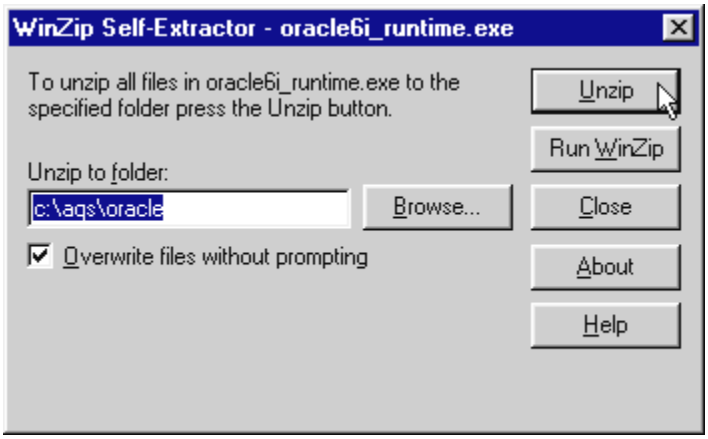


Figure 2-5

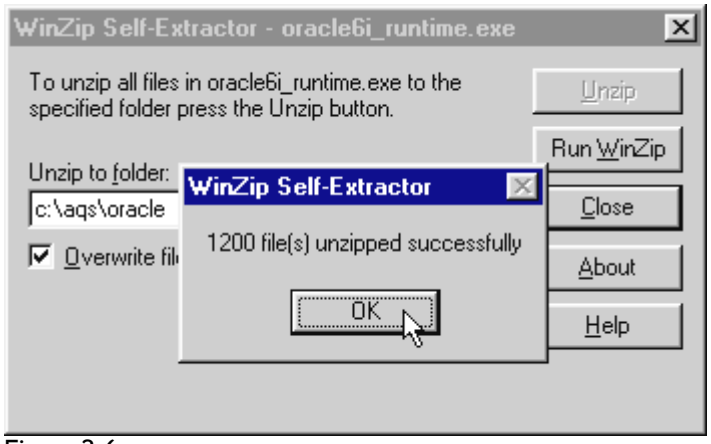


Figure 2-6

Step 4: WS_FTP LE.

If you downloaded the WS_FTP LE software, be sure to install it according to instructions from Ipswitch.

2.3 LOGGING ON TO AQS

If you are outside the EPA firewall (e.g., a state, local, or tribal agency user), be sure SecuRemote is running on your PC (look for the  icon in your system tray.) Start it up if it's not currently running – usually from Start, Programs, SecuRemote, SecuRemote.

After installation is complete (and SecuRemote is active, if necessary) double click on the AQS Icon on your desktop to start the AQS program. (If this icon does not appear on your desktop, you may wish create a shortcut on your desktop.)

Hint: To create a shortcut, click Start, Programs, Windows Explorer and select the **C:\aqs** directory. If you are a Windows 95 or 98 user, look for the file Run_aqs with the AQS icon and drag it to your desktop. If you are a Windows NT user, right click on the run_aqs.bat file, drag it to your desktop and direct it to create a shortcut. Close or minimize Windows Explorer.

You may see an MS DOS window open and commands quickly scrolling by. Wait for the next window, which has the Logon window as shown below.

On the Logon window, enter your 3-character userid, your password for the AQSprod Oracle database, and the database name: aqsprod. Press the Connect button.

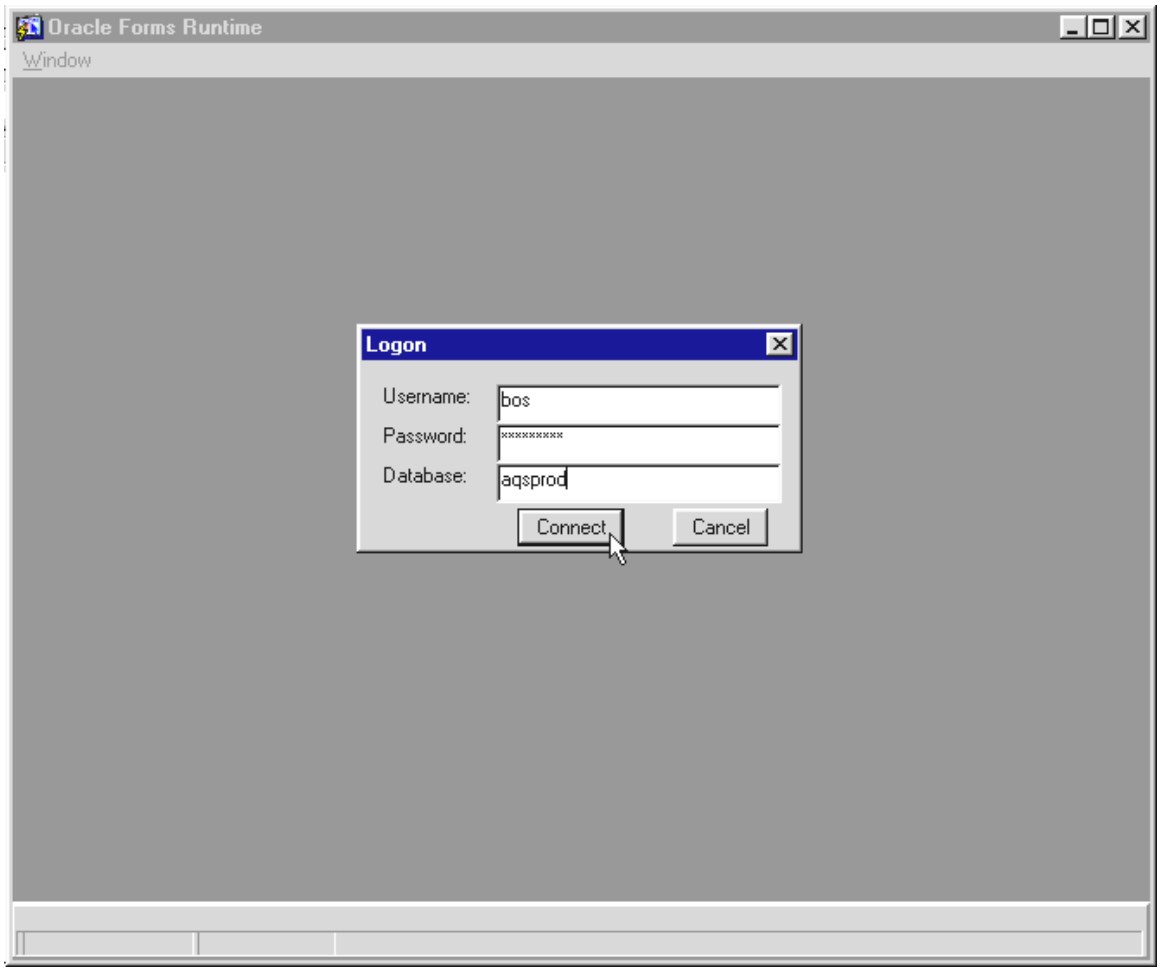


Figure 2-7

SecuRemote users only:
If you are outside the EPA firewall, SecuRemote will prompt you to authenticate yourself to the EPA site.

Figure 2-8

Enter your 3-character userid and SecuRemote password and then click OK. Wait for the TACAS authentication screen before proceeding

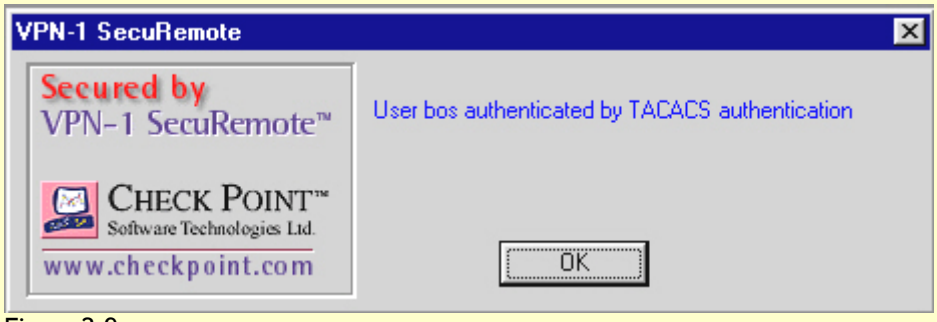


Figure 2-9

The SecuRemote icon changes back and forth from  to  while it is communicating with the EPA server.

Note: If the authentication by SecuRemote takes longer than the time allowed for connecting with the AQS, you will have to restart AQS. Alternatively, you could authenticate first and avoid that problem. To authenticate first, open SecuRemote, choose **P**asswords from the menu, and **S**et Password.

Figure 2-10

If the next screen you see is like the one below, you have successfully connected to the AQS database.

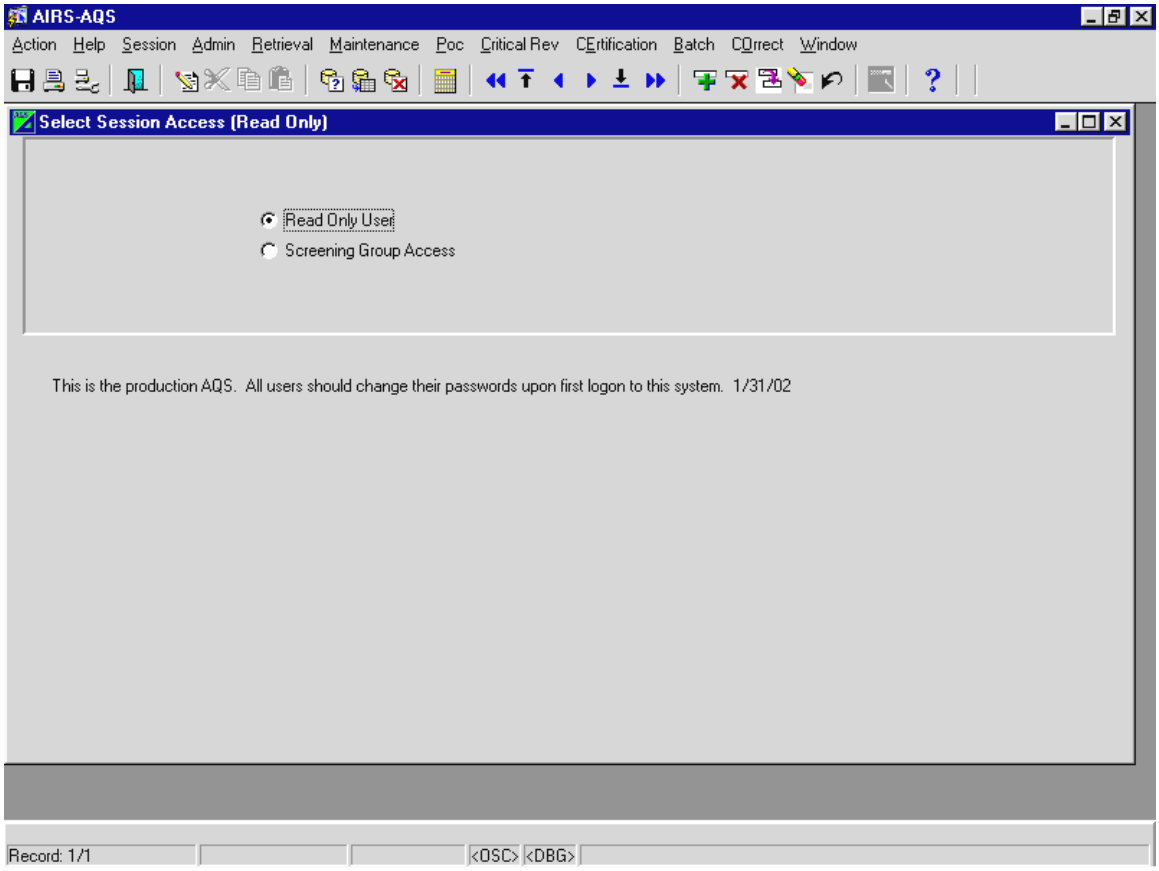


Figure 2-11

Choose either "Read Only User" or "Screening Group Access" depending on what you wish to do during your session.

"**Read Only User**" allows browsing of all data in **production** status in the AQS database. It does NOT allow the user to view any data that is still being processed (i.e., "pre-production" data) or update any data. Users interested in retrievals/reports will probably want to select "Read Only User".

"**Screening Group Access**" permits members of the selected screening group to view both production and pre-production data for monitors owned by that screening group. Only screening group members with update authority may insert, update, or delete data for the screening group. While using this mode, the user cannot view data owned by other screening groups.

2.4 COMPLETING YOUR USER PROFILE

All users with access to the AQS have a user profile created by an AQS administrator. This information must be kept up-to-date.

From the Main Menu, select the **Admin** option and choose **Security** from its drop down menu.

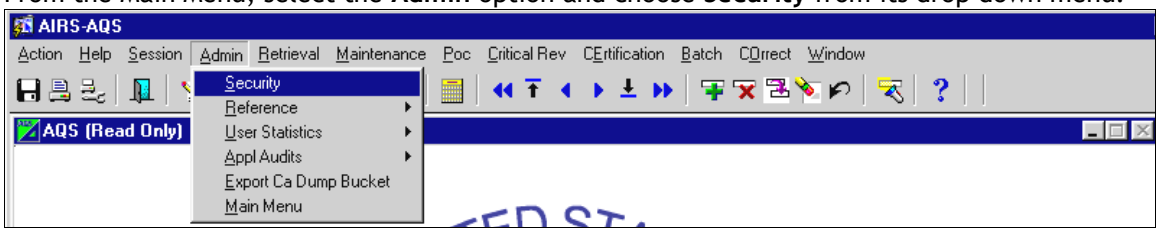


Figure 2-12

Wait while the system retrieves your user profile. You will only be able to see your own profile. Data in the top section of the Application Security screen is used to manage access and provide user feedback. Required fields are indicated by bolding and underlining of the field name. Verify that all required data is complete and correct. (Some fields on the User Profile tab may be completed only by an AQS administrator.) Be sure your email address is correct since AQS uses this address to send you results of batch jobs. Remote printers have not been defined yet.

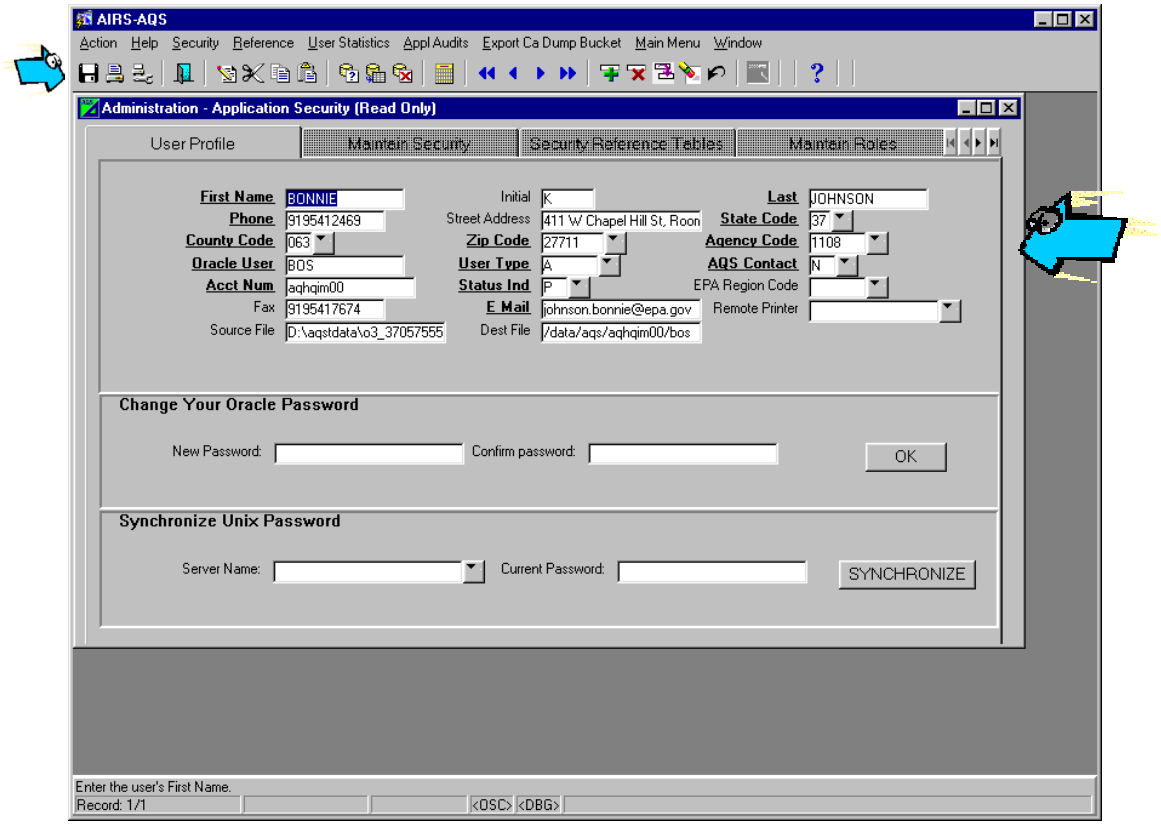


Figure 2-13

After any additions or corrections are made, Save the changes by clicking on the Save icon-  (or ***A***ction then ***S***ave; or press F10). The remaining tabs on the "Administration – Application Security" window are only accessible to AQS administrators.

2.5 CHANGING PASSWORDS

There are currently three passwords users must maintain for the AQS. Users manage all three of these passwords from within the AQS application, on the Administration screen. The 2nd section of the User Profile tab provides a place to change your password for the AQSProd database. The 3rd section allows users to synchronize this password with the UNIX servers Canyon and Volcano.

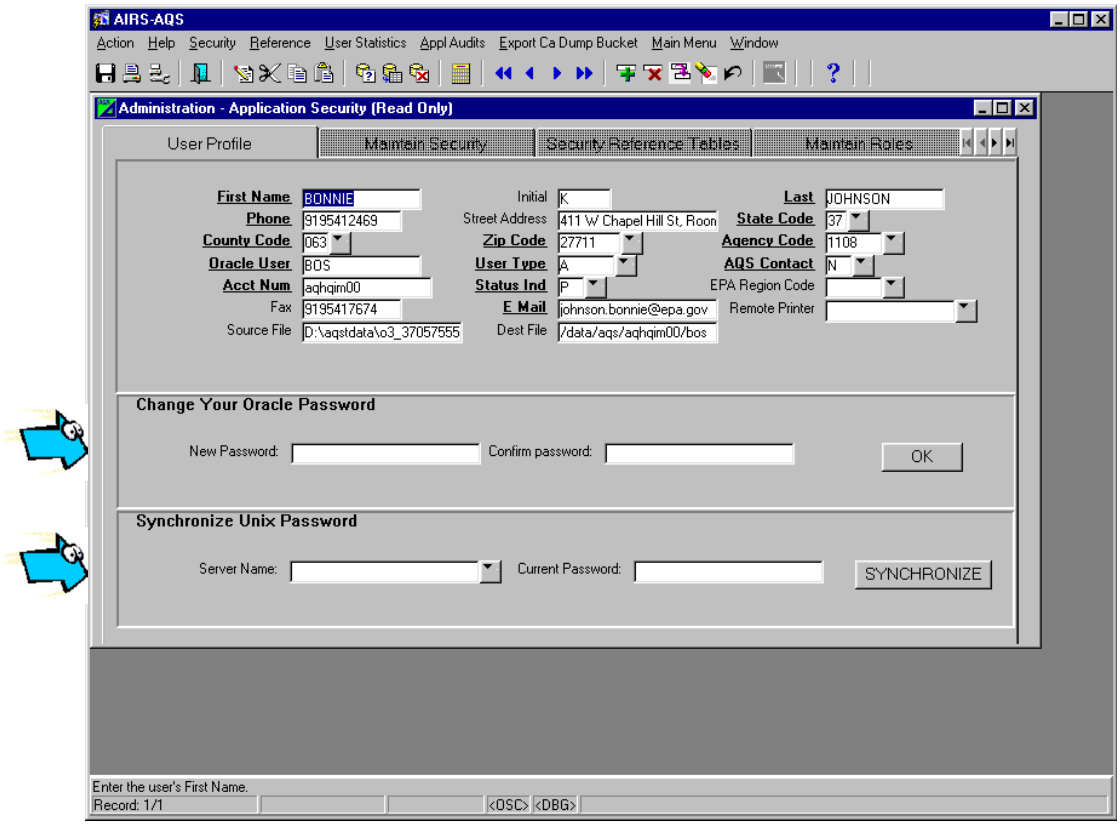


Figure 2-14

Users may only change one password at the time. Passwords must be changed during the first logon to AQS. Once you change your passwords, you are responsible for keeping up with them, keeping them secure, and changing/synchronizing them every 90 days. Note that you only click on the OK button when you are changing your AQS Oracle password. When you are just updating your User Profile, you make the changes in the upper section of the screen and click on the Save icon.

"Synchronize Unix Password" section has two input boxes. The left box, labeled "Server Name", provides a list of values for the servers used by AQS (currently Canyon and Volcano). Choose a server from the list of values. In the "Current Password" box enter your current ("old") Unix password for the selected server. The "Synchronize" button causes the AQS application to log in to the specified server using your old password, and set your Unix password for that server to the lower case version of your current AQS password. (E.g., if your AQS password is "JohnDoe1", after synchronizing, your new Unix password would be "johndoe1". You can only change one password at the time, so use this section to repeat this process for the 2nd server.

There are three key facts you need to remember about changing passwords:

1. Every time you change your AQS password, you will have to re-synchronize your Unix passwords.
2. When you change your AQS password, you must log-out of AQS and log in again before submitting batch jobs.
3. Passwords should be 8 characters long, include a number (but not in the first position), not be a word in the dictionary, and not include any special characters.

Select **Main Menu** from the menu bar when you have finished with this screen.

2.6 LOGGING OFF AQS

As in most Windows-based applications, there are multiple ways to log out. For AQS, any of the following methods work:

On the toolbar, click on the Exit icon 
On the main menu, click on **A**ction, **E**xit
On the keyboard, press Ctrl + q
On the outer most AQS window, click on the Close icon 

Chapter 3 – Batch Data Input for Raw Data

3.1 OVERVIEW

Batch input of raw data is the most frequently used function of the AQS load process. AQS 2002 will accept most data transactions in either the "old" format used with the mainframe system, or the new format specifically designed for this system. Due to the structure of this version of AQS, the following "old" format transactions are not accepted: site (A1-A7), monitor (F1-F5), minimum detectable (Z), and null data (4). The "new" format transactions are provided in Appendix C. Notice that each sample value and its identifying information are shown on one record.

Subsequent sections of this chapter define in detail how to load raw data in batch mode. (Site and monitor data may also be loaded in batch mode -- detailed instructions are defined in a later chapter.)

There are a number of steps used to load data from a text file into the AQS database. It is important to have a general understanding of the whole load process before going into the details. The required steps depend on the kind of data involved, but in a very broad sense, you must:

- Transfer the file to the EPA proxy server known as Volcano
- Run a batch process to Load this data into the AQS database
- Post this data (make it "production" data)

Accomplishing the load process involves up to five batch load processes and reports. Selecting the **Batch** option on the Main Menu leads you to the Batch Process screen. Your screening group name is displayed on the title for the active window. In the sample below, "North Carolina" is the screening group name.

The two tabs, **Batch Load** and **Batch Reports** are used to manage the process. It is helpful to understand how these two tabs work together in order to successfully load data in batch mode. Following this section is a flowchart to help users determine the next course of action.

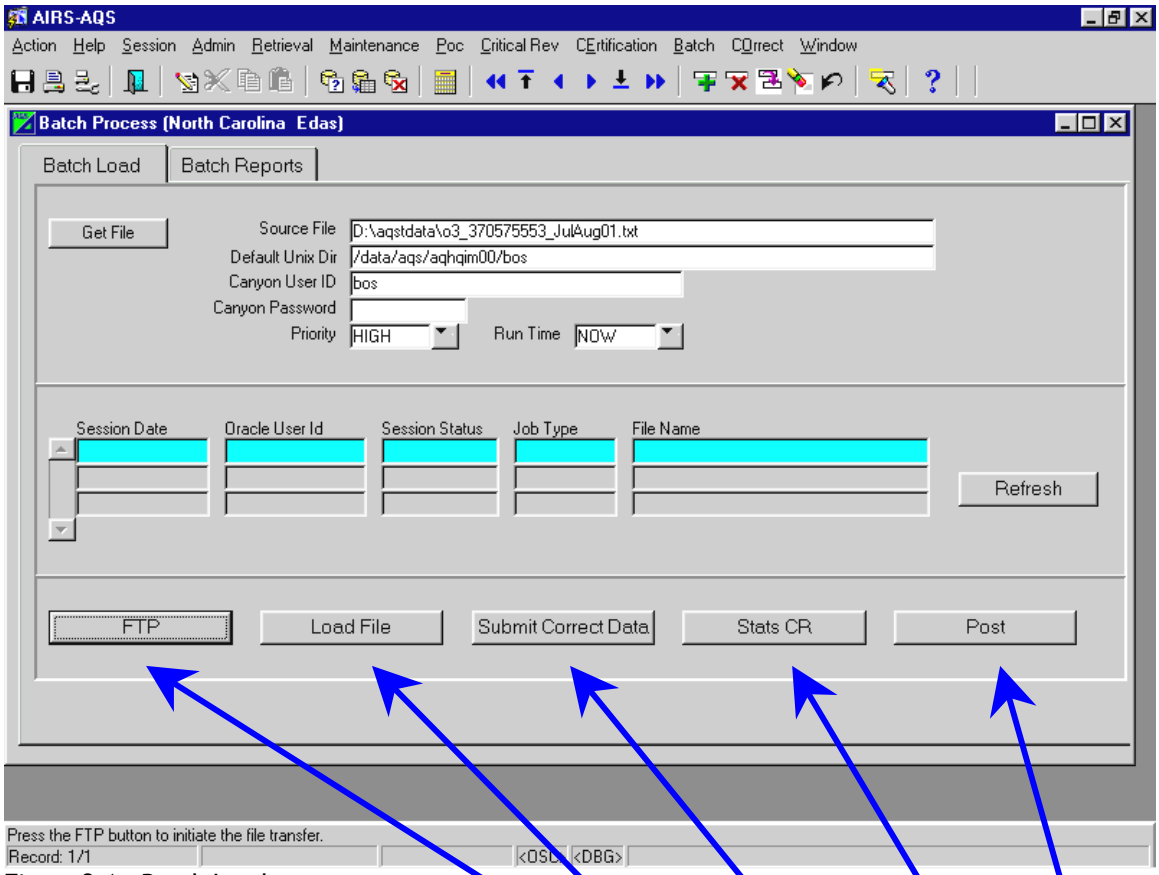


Figure 3-1 – Batch Load

The Batch Load tab has five action buttons: **FTP, Load File, Submit Correct Data, Stats CR, and Post.** These actions will apply to the file information you supply in the top half of the window. (All information in the top section, except for your UNIX Password, is "remembered" from session to session.)

FTP: File Transfer Protocol is used to electronically transfer your data file from your agency to EPA. The AQS application is setup to use the free limited edition version of WS_FTP software from IPSwitch. You may use other FTP software for transferring files but it may not work automatically within the AQS application.

Load File: Load File attempts to load your data into the AQS database, i.e., insert, update, or delete data after performing basic edits on the data submitted. The basic edits include checking for valid data types for a field (e.g., numeric vs. alphabetic), valid codes where the code must exist in a reference table (e.g., state code), and duplicate transactions, and verifying that any required related records exist. Raw data with no basic errors are loaded into a pre-production status in the AQS production tables, so they can be further reviewed before going into production status. Records that do not pass the edits in this step are put into staging tables where they may be corrected online.

Note: If your file is corrupt (this includes having a record with an invalid transaction type), the whole file will be rejected. Rejected files must be fixed outside of the AQS application and be reintroduced to the AQS application (i.e., re-FTP'd and re-Loaded.)

After running a Load File job, you should review the Edit/Load Summary and Edit Error Details reports from the Batch Report tab.

Submit Correct Data: Data that failed the basic edits during the Load File step may be corrected through an online process called **Correct**. Once errors are corrected, the data may be resubmitted using the Submit Correct Data button.

After running a Submit Correct Data job, you should review the Edit/Load Summary and Edit Error Details batch reports again.

Stats CR: The Statistical and Critical Review job runs further checks on the data being loaded. Raw data must be run through the Stats CR job before it may be posted into production status in the AQS database. The Stats CR job creates the data used for the Scan Report, Statistical Evaluation and Critical Review reports for user review. It applies to raw data in pre-production status. (Pre-production status means data passed the edits done during the load process and is no longer considered to be in the screening stage.)

After running a Stats CR job, review the Scan and Stat Evaluation batch reports.

Post: The Post button starts the process of posting pre-production raw data to production status. (Reminder: Site and Monitor data go straight from the Load step to production status if there are no errors detected.)

After running a Post job, review the Raw Data Inventory batch report.

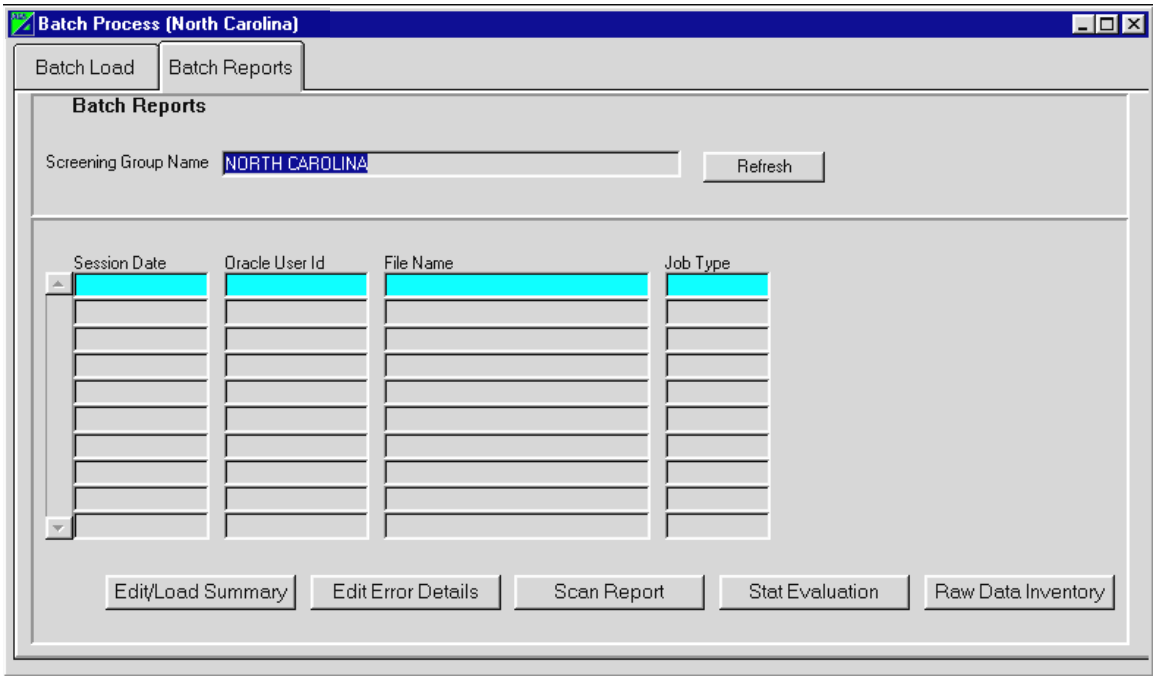


Figure 3-2 - Batch Reports

The five reports available from the Batch Reports tab are each the result of one of the Batch Load jobs.

Edit/Load Summary: This report provides summary results of the Load job. Counts of the numbers of Errors, Exclusions, Edits, Posts, and Totals are provided for each transaction type appearing in your data input file.

Edit Error Details: A detailed report of errors detected by the Load job is provided with this report. The report identifies the site/monitor for the record in error, the table involved, the transaction as it appeared in the data input file, and attempts to identify the column in error and to describe the error.

Scan Report: The Scan Report comes from the Stats CR job and provides information on maximum values and validity flags for raw data while it is still in pre-production status. Review of this information may alert you to possible errors in the data before you post it to production.

Stat Evaluation: The Statistical Evaluation report also comes from the Stats CR job. It compares pre-production data to existing production data using the Shewhart Test, Patterns Test, and the Gap Test. All records that failed one of these tests are listed with the Monitor ID and the date and time of the error.

Raw Data Inventory: This report comes from the Post job. It allows viewing/printing of a summary of raw data posted to production for a particular batch of data. This option is provided for those that wish to keep a printed or electronic report of processed data in a summarized form. It is not a required step for loading data to production.

3.2 BATCH DATA INPUT FLOWCHART

The flow chart below may help guide you through the steps to get your data into the AQS database using batch mode. In addition to the steps, the broad colored bands indicate the location/status of the data.

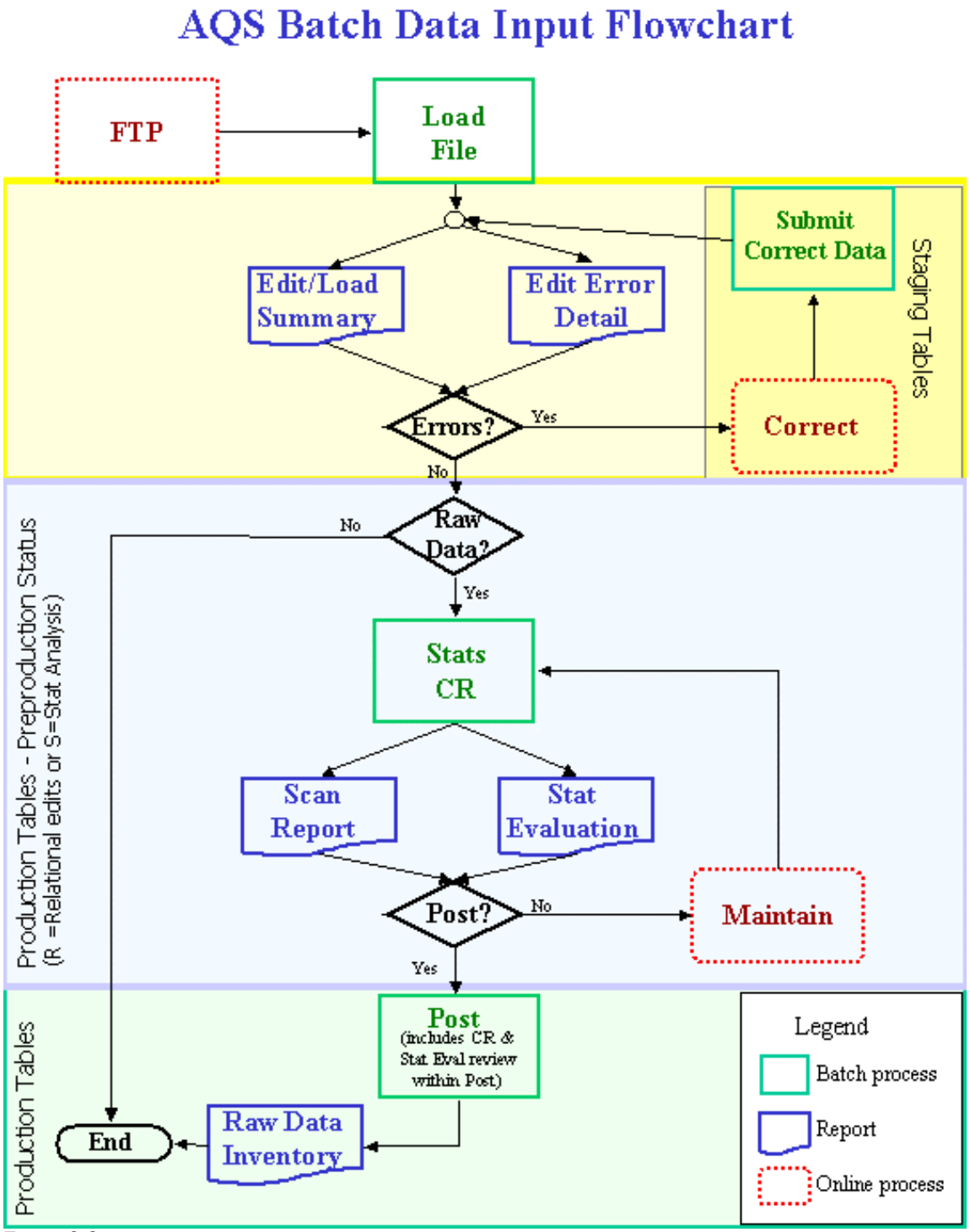


Figure 3-3

3.3 SELECTING A SCREENING GROUP

You must be logged into a screening group to input data. If you did not select a screening group when you initially logged on to AQS, choose **Session** from the **Main Menu** and select **Screening Group** Access instead of **Read Only User**.

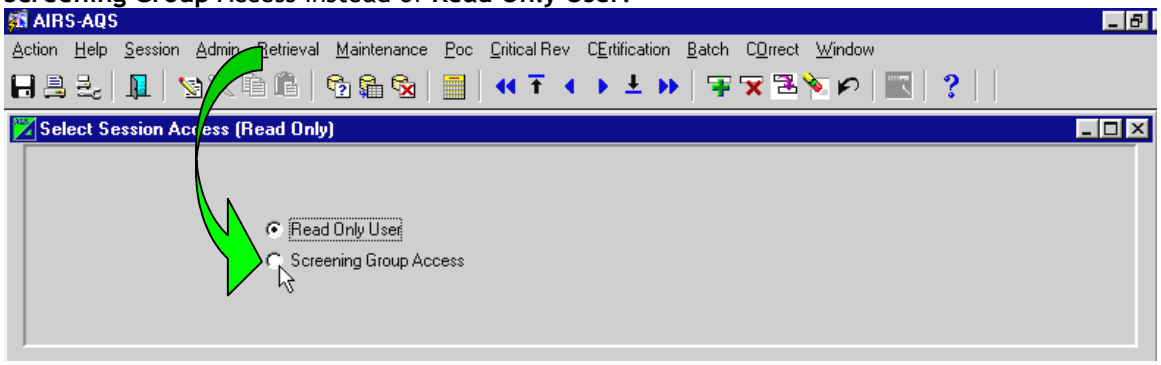


Figure 3-4

You may have access to more than one screening group, but only your screening groups should appear. If you have more than one screening group, be sure to select the one you intend to deal with. While in a screening group, you will not be able to view data that is not "owned" by that screening group.

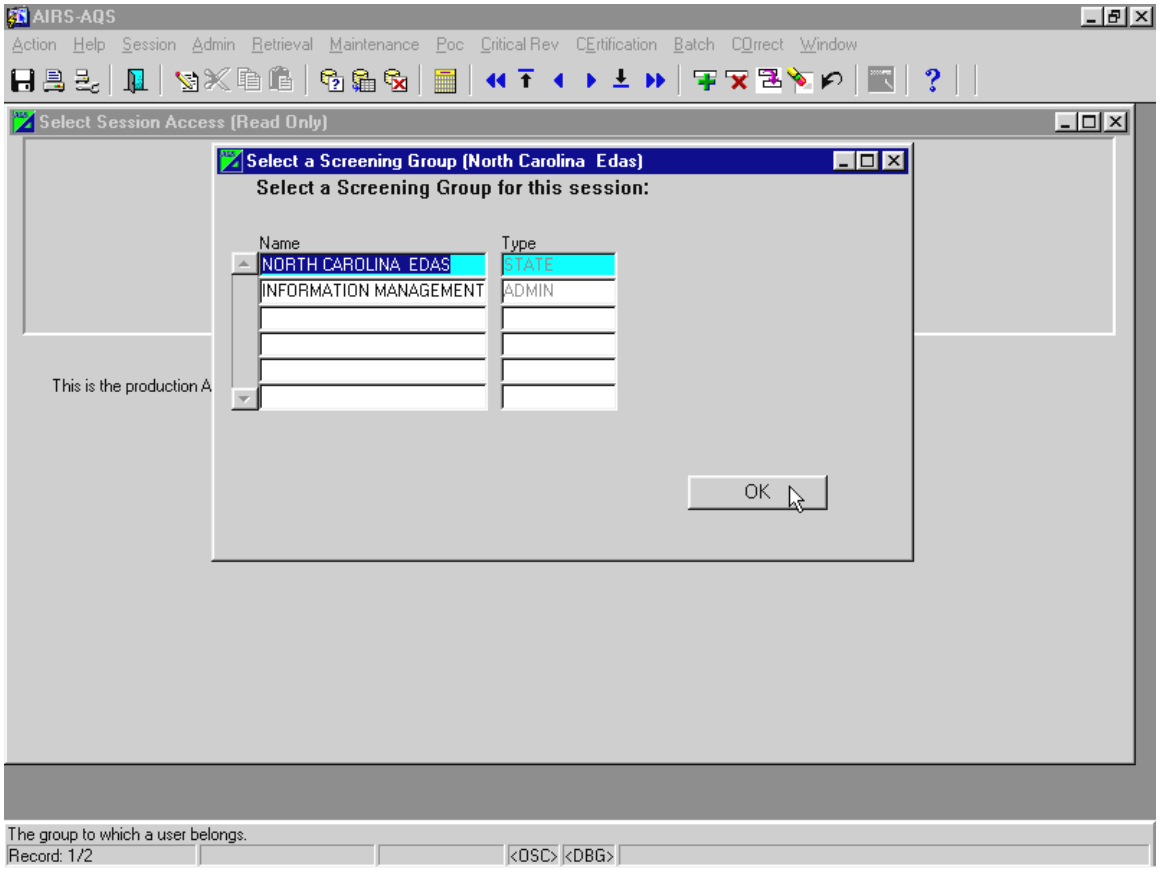


Figure 3-5

3.4 USING FTP

The first step in loading your data is to transfer (FTP) your revised beta1data file to your agency's directory on the EPA server known as Volcano. FTP is a separate program and not part of the AQS application, so any values supplied on the AQS Batch Load screen are ignored.

Experienced WS_FTP users and those using other FTP software may skip to the Quick Notes for Experienced FTP Users at the end of this section.

If you are using WS_FTP LE and it's installed in the default directory, you can initiate the transfer from within the AQS application as follows:

Select **Batch** from the **Main Menu**.

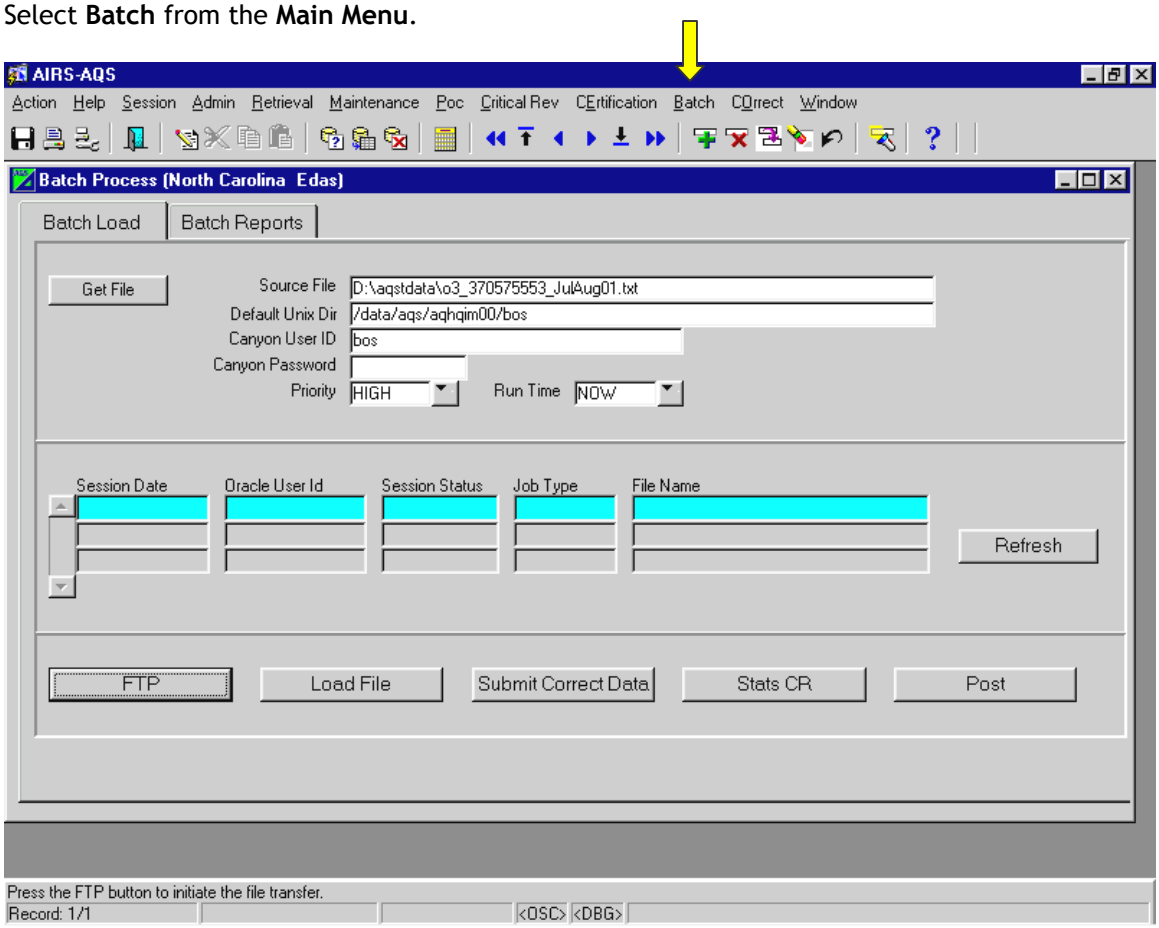


Figure 3-6

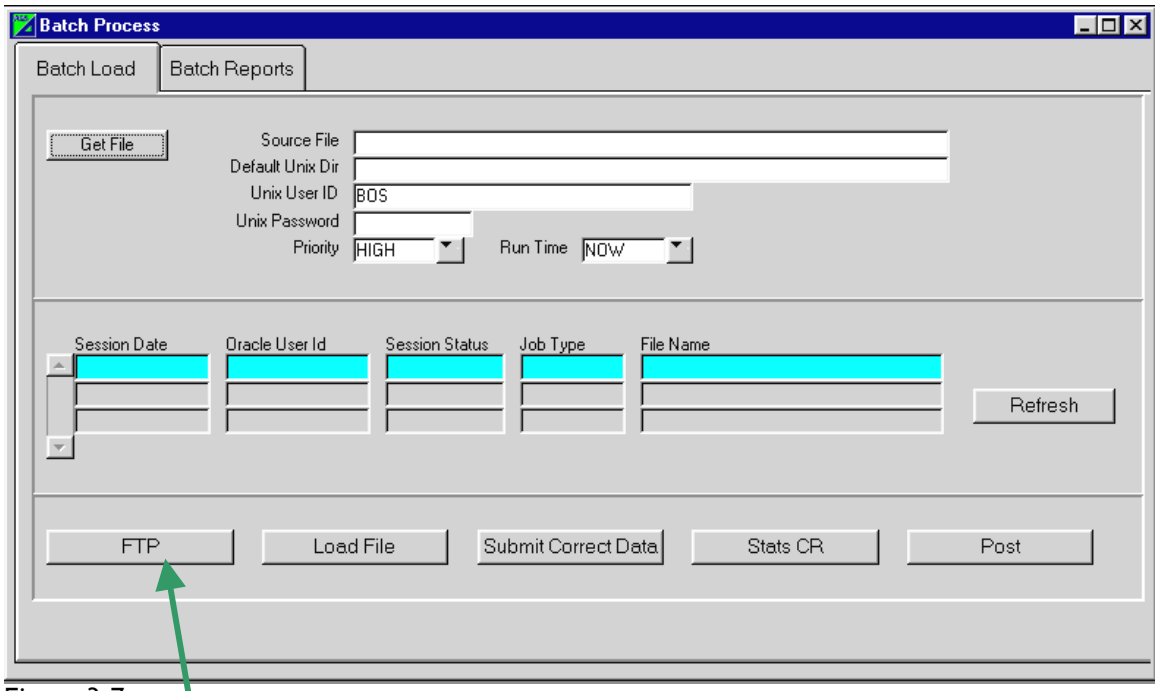


Figure 3-7

Click on the FTP button to initiate the transfer. The IPSwitch logo will pop up followed by the Session Properties screen.

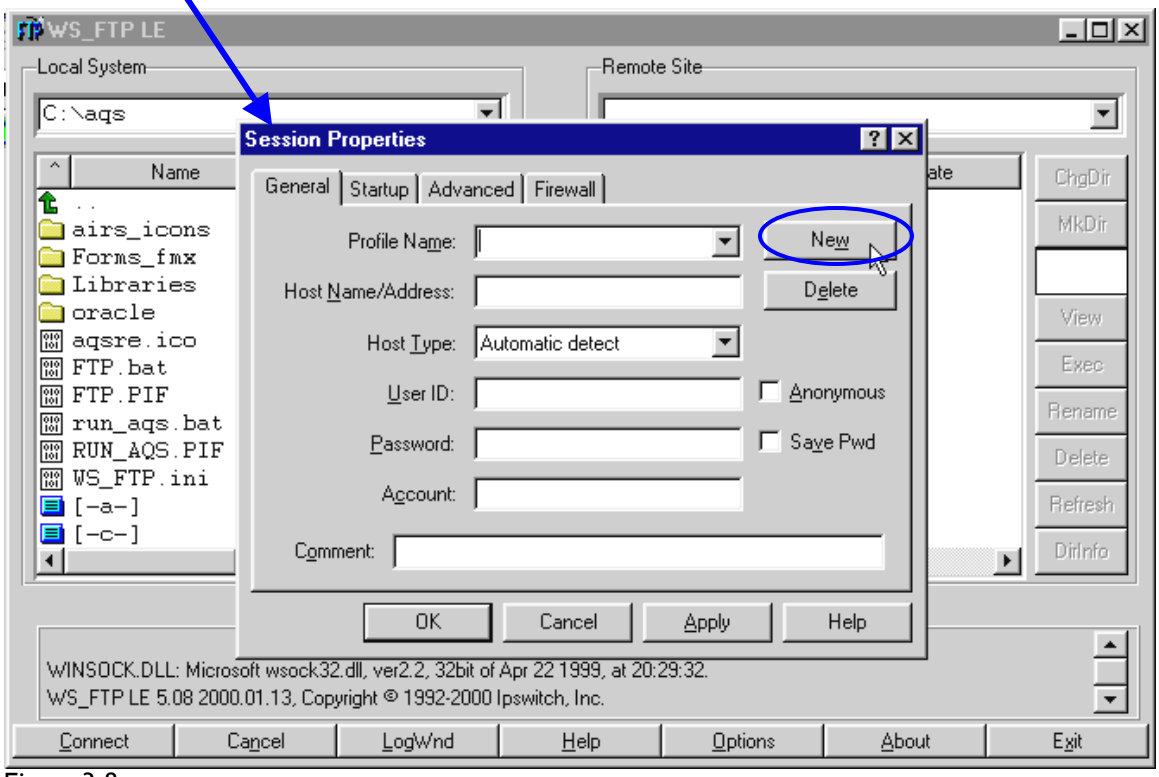


Figure 3-8

The first time you attempt to connect to the EPA server, you should create a new profile by clicking on the "New" button. You may name the profile anything you wish. The suggestion shown below is "EPA AQS Proxy Server". Complete the remaining fields (**volcano.rtpnc.epa.gov** is the Host Name) and press the OK button. Provide your user ID and password in the proper places. (Account is not required.)

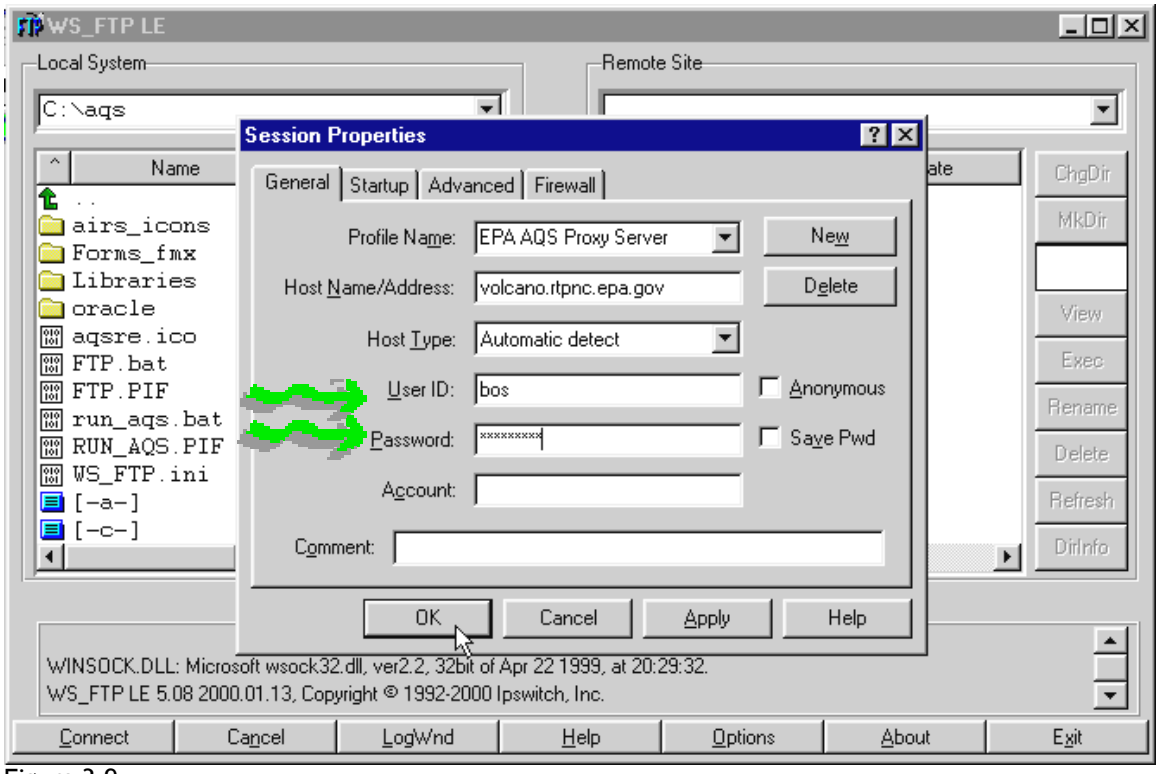


Figure 3-9

Once the connection is made to the EPA server, the screen for selecting the file to be transferred appears. The directory you transfer **from** is on your PC or local network. The directory you transfer **to** is established by the EPA regional office responsible for your agency. These agency directories generally use the same name as your agency account and follow the format, **aqrrssll**, where "aq" indicates air quality, "rr" is the EPA region, "ss" is the 2-letter state abbreviation, and "ll" is a 2-character code for the tribe or local agency.

Refer to the sample screen below for an explanation of the screen items involved.

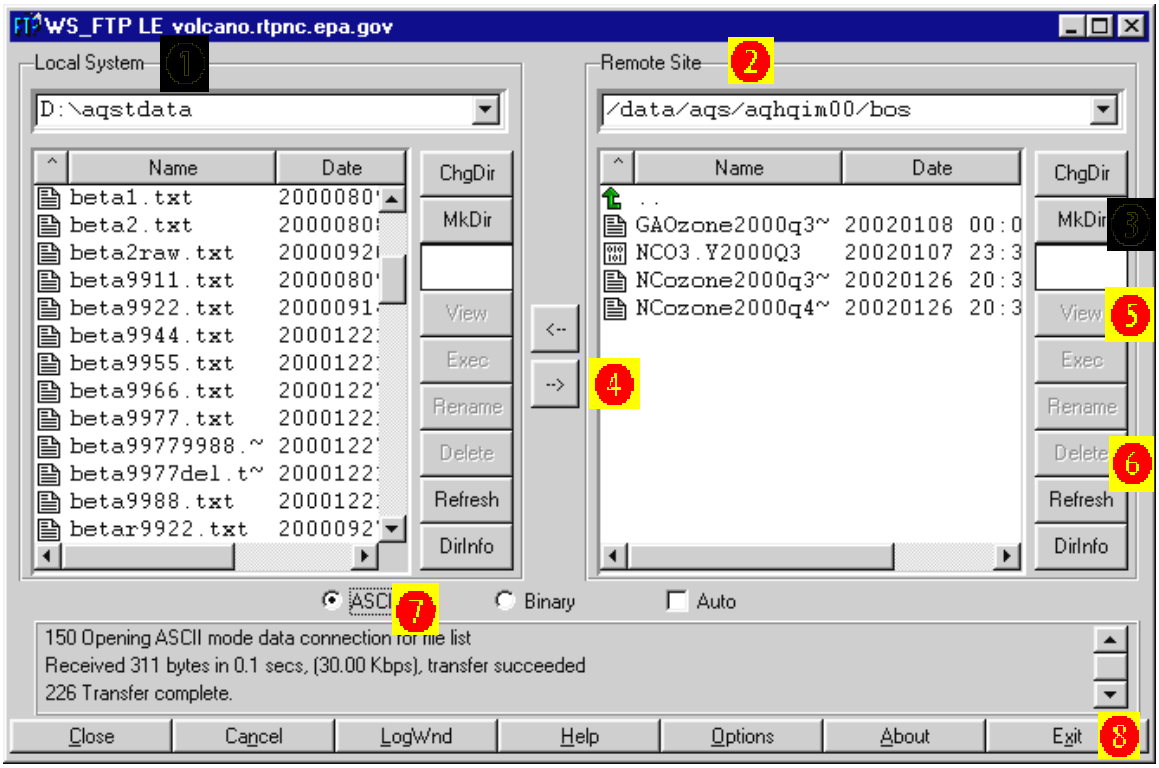


Figure 3-10

The left side of the screen refers to your Local System❶. You may need to navigate to a different directory to find your local data file. The right side of the screen refers to the EPA system, i.e., the Remote Site❷. All of the EPA remote directories for AQS data are located within /aqs/data on Volcano. Find the appropriate directory for your agency. (E.g., /data/aqs/aqhqim00 is the directory for EPA headquarters' group IMG; /data/aqs/aq04nc00 would be the directory for the state of North Carolina.) Be sure to use the proper directory! **The first time you connect to Volcano, your "home" directory (e.g., /home/bos) may appear as the Remote Site❷. You must change this.**

If you wish to place your files in a directory separate from others *within* your agency, you may create a subdirectory by clicking on the MkDir button❸ and providing a subdirectory name. For example, /data/aqs/aqhqim00/bos includes a subdirectory for the user bos.

> Note: Creation of subdirectories for individuals will not prevent other users within the same agency from seeing and using that subdirectory.

Before your first transfer….

EPA only supports **active transfer mode**. Before your first transfer to Volcano, check your transfer mode by clicking on Options, then select the Sessions tab. Be sure the "Use Passive Transfer Mode" box is not checked.

You can also use this screen to make the directories you have currently selected as the default folders whenever you connect to this server by clicking on:

Save Current Folders as Connection Folders

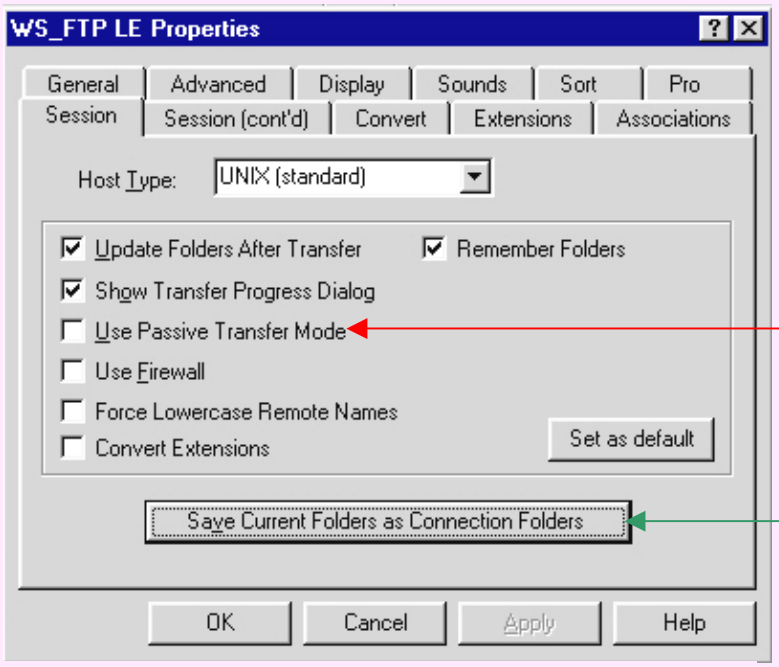


Figure 3-11

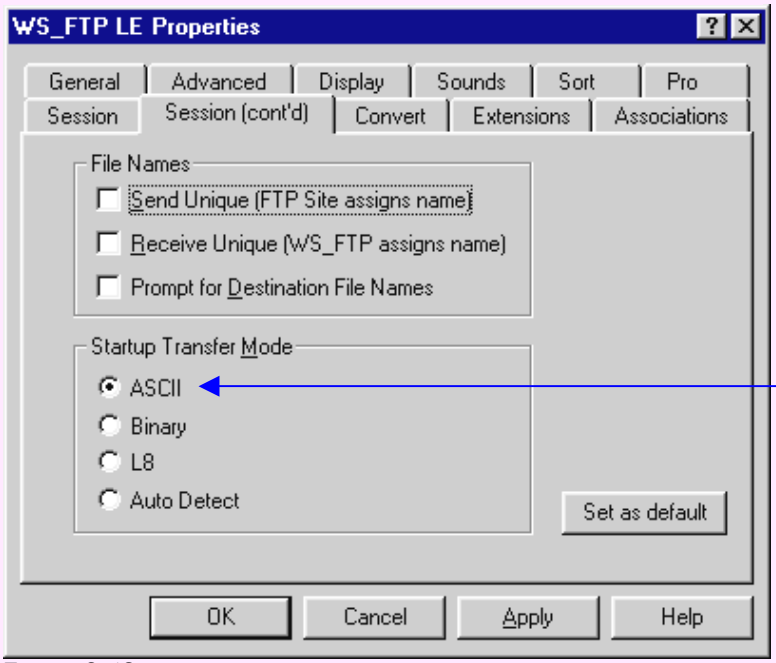


Figure 3-12

AQS data is textual data. Usually, the transfer mode does not affect processing, but explicitly using ASCII mode avoids any potential problems

Press the  button❹ in the middle of the window to start the transfer. The direction of the arrow indicates the direction of the file transfer. When the file transfer is complete, you should see your file on the right side (Remote Site) of the FTP screen. You may view your file from the EPA server by highlighting your remote file name and clicking on the View button❺ on the right. Verify the case of the name of your remote file since this is a UNIX system and UNIX system file names are ***case sensitive***. (NC44201q4.TXT is NOT the same as nc44201q4.txt. Be consistent in your file naming strategy to avoid errors due to upper/lower case differences.)

If your file is incorrectly transferred, delete it from the remote site (right side) by highlighting the file name and clicking on the Delete button❻ on the right side of the FTP screen. Change the transfer mode to ASCII❼ and try the FTP again. Usually, the transfer mode for text files doesn't matter, but if your data is unreadable on the remote site yet readable on your local system, changing to ASCII mode for the FTP may correct the problem.

When you have completed file FTP'ing, click on the Exit button❽ at the bottom of the FTP screen.

QUICK NOTES FOR EXPERIENCED FTP USERS

1. Create profile for EPA AQS proxy server

   Host name: volcano.rtpnc.epa.gov
   Host type: automatic detect
   User ID: (your 3-char EPA userid)
   Password: (your assigned password for Volcano)
   Account: (not required)

2. Check remote site directory
   Be sure this is the proper directory for your data, not /home/uid. The directory name should be /data/aqs/aqrrssll, where "rr" = region, "ss" = state, "ll" = local or tribal code assigned by region.

3. Use ASCII as your transfer mode.

3.5 LOADING YOUR FILE INTO THE AQS DATABASE

Once your data file has been transferred to your Default UNIX Directory on Volcano, you are ready to **Load** this file into the database. The **Load File** button is on the **Batch Load** screen. (If you're not there, click on **Main Menu** then **Batch**.)

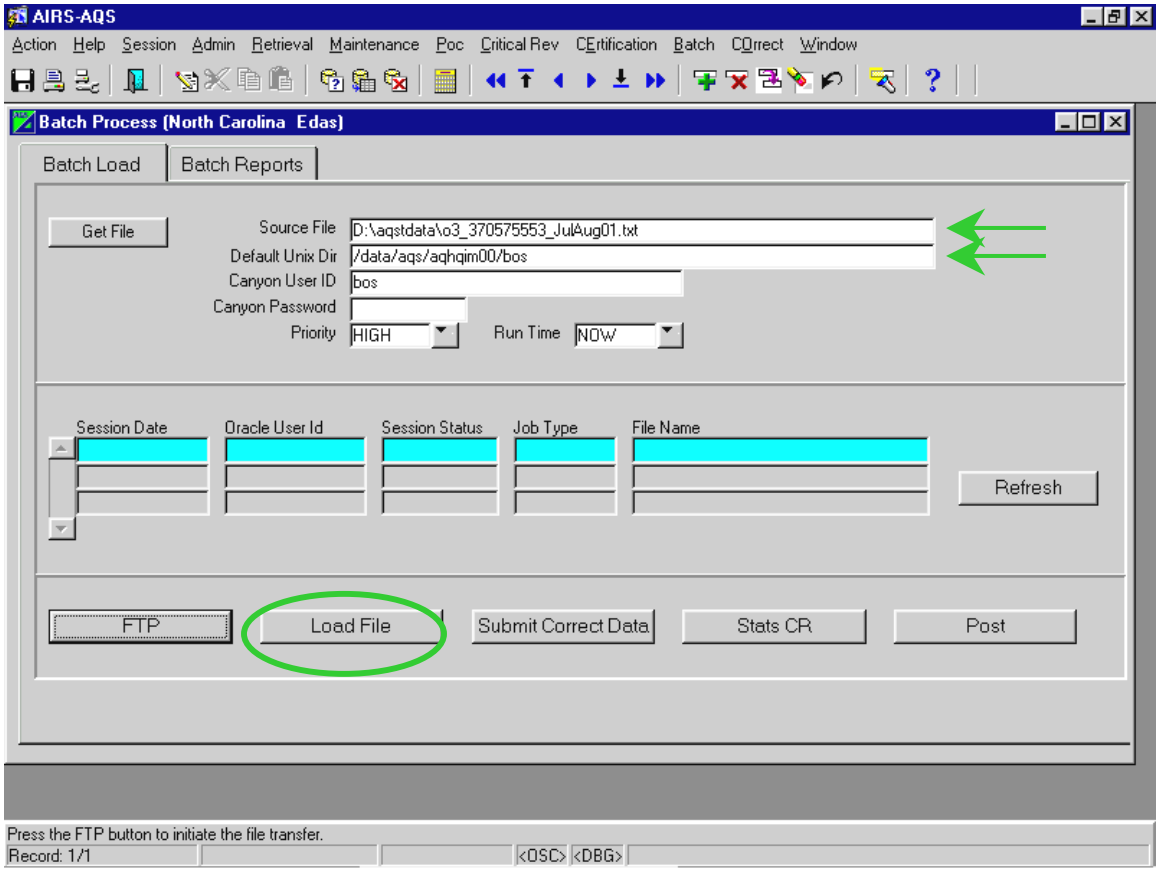


Figure 3-13

Enter the name of your Source File (e.g., d:\aqstdata\o3_37057553_JulAug01.txt), or use the Get File button to search for it.

Your default UNIX directory should appear automatically. This is the directory to which you FTP'd your data file on Volcano. If it doesn't appear, enter it. (Again, the format is: /data/aqs/aqrrssll, where "aq" is for Air Quality System, "rr" is your region number (01, 02, 03... 10), "ss" is your 2-letter state abbreviation (AK, AL, ... WI, WY), and "ll" is the 2-digit number assigned by EPA for your local agency or Tribe.)

Be sure the Source File name and Default UNIX Directory are correct.

> **Tip:** Technically, the source file should be just the name of your source file on the EPA system. But, if you leave the full path name from your PC as the source file, the program will nicely ignore the path and use only the file name. For example, if you leave "d:\aqstdata\o3_37057553_JulAug01.txt " as the Source File, the application looks in your default UNIX directory ("/data/aqs/aqhqim00/bos" in this example) for the file

"o3_37057553_JulAug01.txt ". Likewise, if you change the Source File name to just "o3_37057553_JulAug01.txt", it will still look for that file in your default UNIX directory.

Enter your UNIX User ID and password for the AQS UNIX server (Canyon) -- not the proxy server (Volcano) used for FTP'ing. (Your User Id will be remembered from session to session once it has been entered.)

Be sure the remaining fields in the top section of the window are complete and click on the Load File button.

Caution: File names, userids and passwords are case-sensitive.

Wait for an informational window advising that your file has been submitted. Click OK.

Figure 3-14

The middle section of the screen on the Batch Load tab provides information on each individual batch job submitted within the current screening group. You may not delete or modify the information presented there. Session records will be purged after some time (yet to be determined.)

Press the Refresh button to update the Session Status. The status for a submitted job will change to ACTIVE and later to COMPLETED or ERROR.

If your session status shows REJECTED, then your entire input file was rejected. Many times is this the result of an invalid transaction type. Review your input file on your PC, make any corrections necessary, then re-ftp it, and run the Load job again.

Note: You will also receive an email notifying you that your job has ended and possibly providing detailed information about the job. Once the new AQS application has been in production for a while, much of the detailed information will be removed from this email. Generally, you may ignore everything in the log as long as the last message indicates success. If there are unexpected errors, keep the email. We may need you to forward it to us for debugging purposes. You do not have to wait for this email to proceed.

3.6 REPORTS FROM LOAD FILE STEP

Two reports are available following a Load File batch job: Edit/Load Summary and Edit Error Details. On the Batch Reports tab highlight the session identifying the batch job to be reviewed, then click on the Edit/Load Summary or Edit Error Details button to see the reports. (Load File jobs will show a Job Type of "File".)

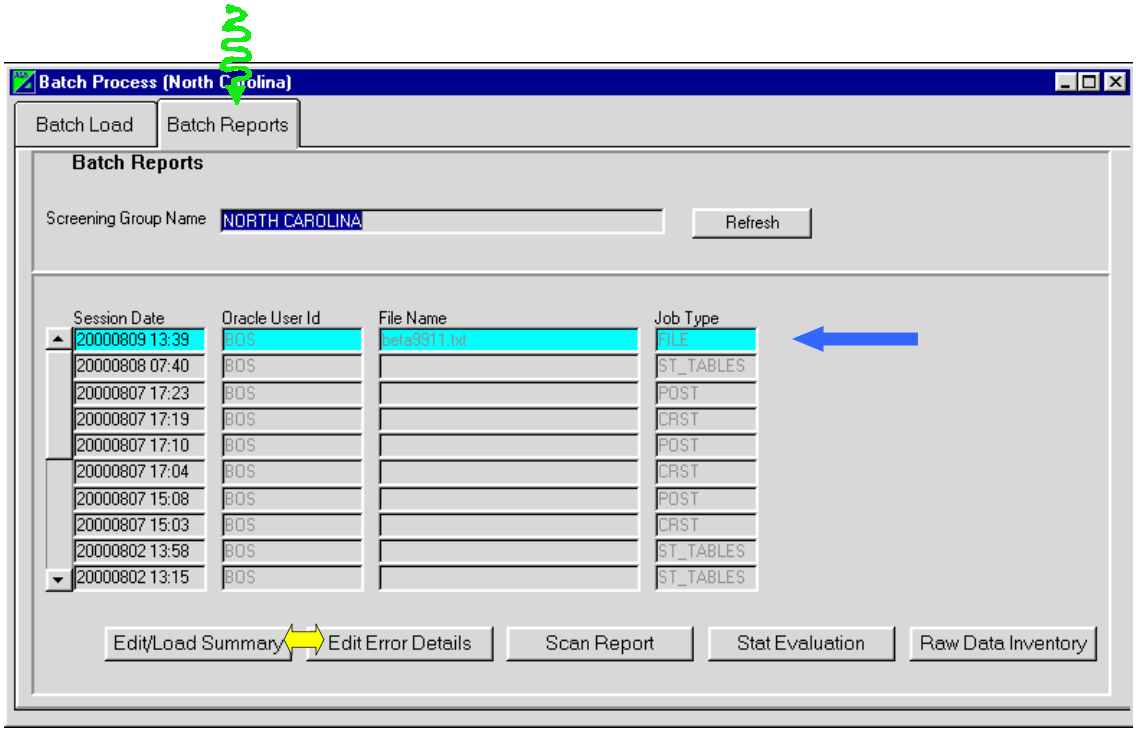


Figure 3-15

Once you request a report, it usually takes a few seconds for the report engine to start. Each report begins with a cover page similar to the one below. This page, which generally appears quickly, indicates that your request has actually connected with the database.

NOTE: Clicking repeatedly on a report causes the report engine to start multiple times although only one report will run at the time. These icons in your taskbar indicate the active AQS processes:

If a report is not visible on your screen when the Previewer icon is showing in your taskbar, click on the Previewer icon to bring it up. If you've requested more than one report, close the preview of one report to see the next one.

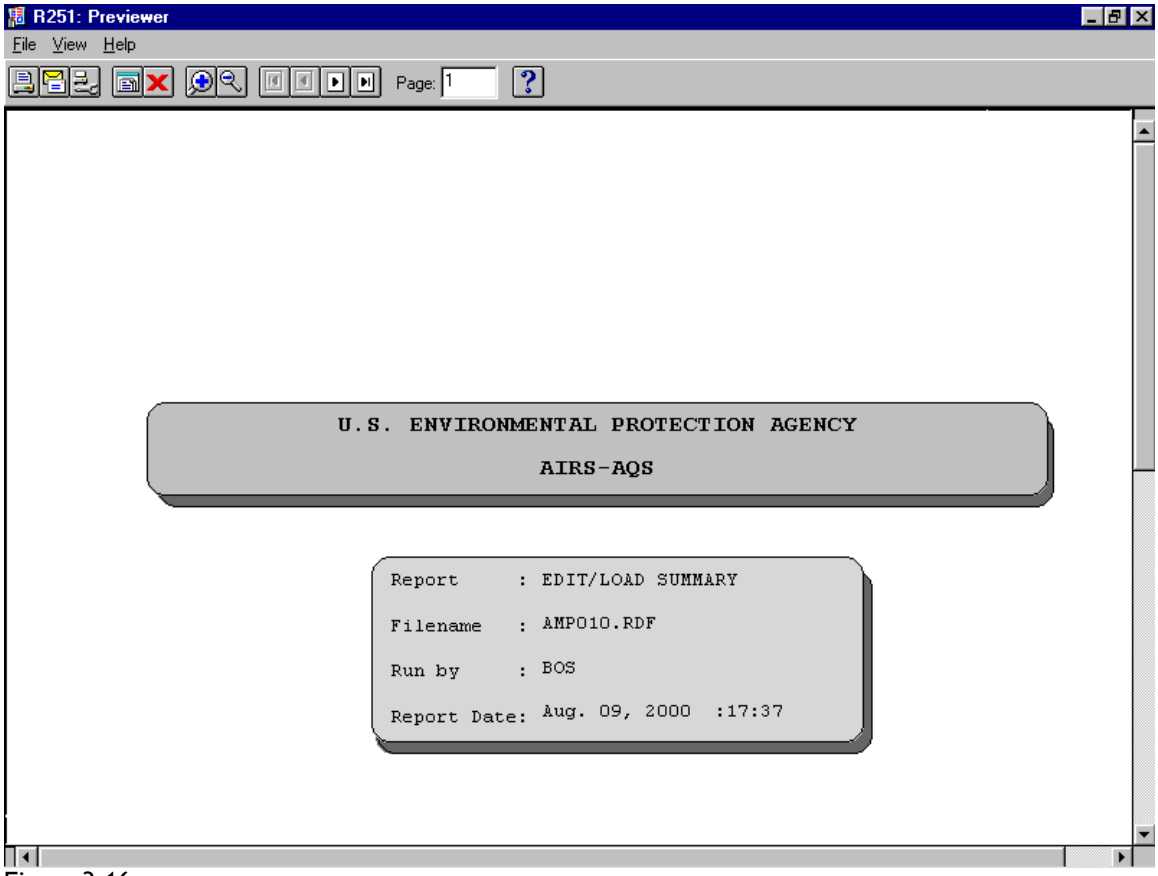


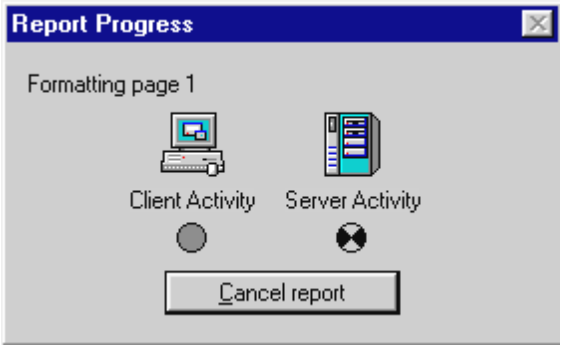
Figure 3-16

IMPORTANT Use the next page button in the set of paging buttons to advance to the next page. (You may also use the Page Up and Page Down keys to navigate within a report.) If you don't request the next page, your report will not be formatted – it will not appear on your screen.

You will see this graphic indicating the report is in progress before the first page of data appears.

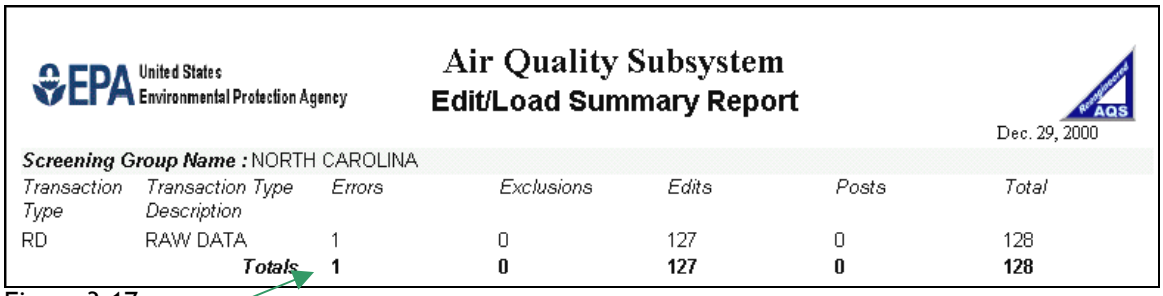
Use the next page button to advance through the report.

A cover sheet will appear at the end of the report.



When printing reports, you may wish to skip printing the first and last page (cover pages).

Edit/Load Summary: This report provides summary results of the job to load (and edit) records to the database. Raw data records that have no format errors are counted in the Edits column. There are several more steps to be completed before raw data is posted into production on the database.



EPA United States Environmental Protection Agency

Air Quality Subsystem
Edit/Load Summary Report

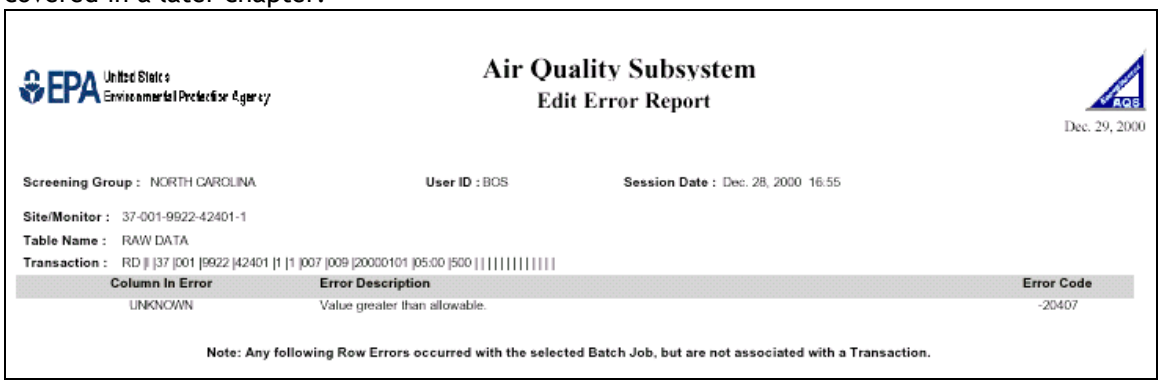
Dec. 29, 2000

Screening Group Name : NORTH CAROLINA

Transaction Type	*Transaction Type Description*	*Errors*	*Exclusions*	*Edits*	*Posts*	*Total*
RD	RAW DATA	1	0	127	0	128
	Totals	**1**	**0**	**127**	**0**	**128**

Figure 3-17

Edit Error Details: If any errors are shown in the summary report, the details for those errors are shown in the Edit Error Report. The sample report below shows the one record with the error. Records with errors are written to a separate group of tables called Staging Tables. These records may be fixed using the **Correct** option from the **Main Menu** and then resubmitted with the Submit Correct Data from the Batch Load tab. The **Correct** option is covered in a later chapter.



EPA United States Environmental Protection Agency

Air Quality Subsystem
Edit Error Report

Dec. 29, 2000

Screening Group : NORTH CAROLINA **User ID :** BOS **Session Date :** Dec. 28, 2000 16:55

Site/Monitor : 37-001-9922-42401-1
Table Name : RAW DATA
Transaction : RD ||37 |001 |9922 |42401 |1 |1 |007 |009 |20000101 |05:00 |500 ||||||||||||

Column In Error	Error Description	Error Code
UNKNOWN	Value greater than allowable.	-20407

Note: Any following Row Errors occurred with the selected Batch Job, but are not associated with a Transaction.

Figure 3-18

If no errors are shown in the Edit/Load Summary Report, skip to 3.8 Running the Stats CR job.

3.7 SUBMITTING CORRECTED DATA

Data in the staging tables will not be processed any further until it has been corrected and has passed the basic edits. The basic edits are run against data in the staging tables by using the Submit Correct Data button on the Batch Load tab. The processing behind the scenes is the same as with the Load File job, except only the records in the staging tables for the screening group are processed. (Rerunning the Load File job would result in duplicate records for all records that passed the basic edits during the initial load.)

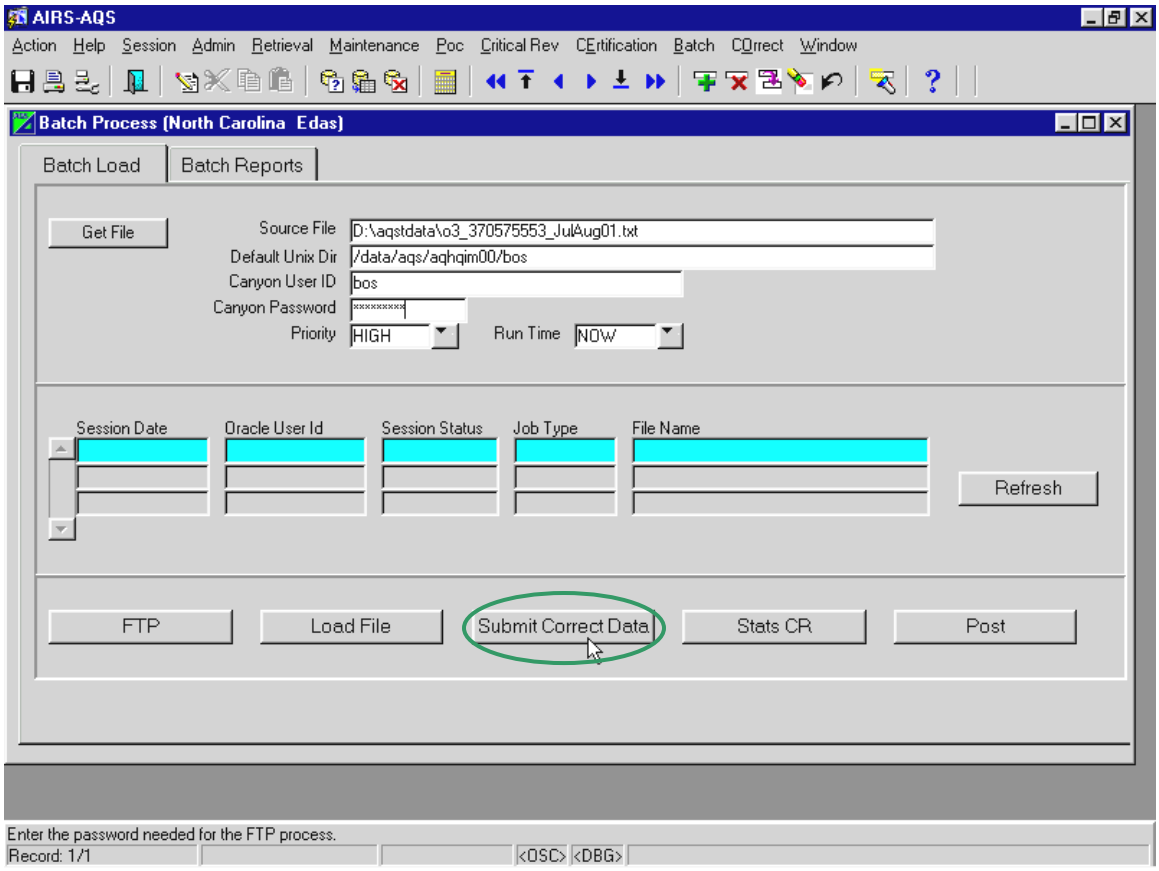


Figure 3-19

A job type of "ST_Table" is shown in the session area of the Batch Load screen when the Submit Correct Data job is submitted. When the status of the ST_Table job changes to Completed, **review the Edit Load Summary and Edit Error Details reports again**. The summary counts will only include those records that were in the Staging Tables.

3.8 RUNNING THE STATS CR JOB

When there are no errors, or you wish to process data that passed the basic edits and ignore data that did not, the next step is to run the Stats CR job from the Batch Load tab. This job creates the data used for the Scan Report and Stat Evaluation and moves your data to the next step towards posting it into production status. All data for your screening group that is in pre-production status is used in the Stats CR job – including pre-production data input by any other members of the same screening group.

On the Batch Load screen, enter your UNIX (Canyon) password and click on the Stats CR button.

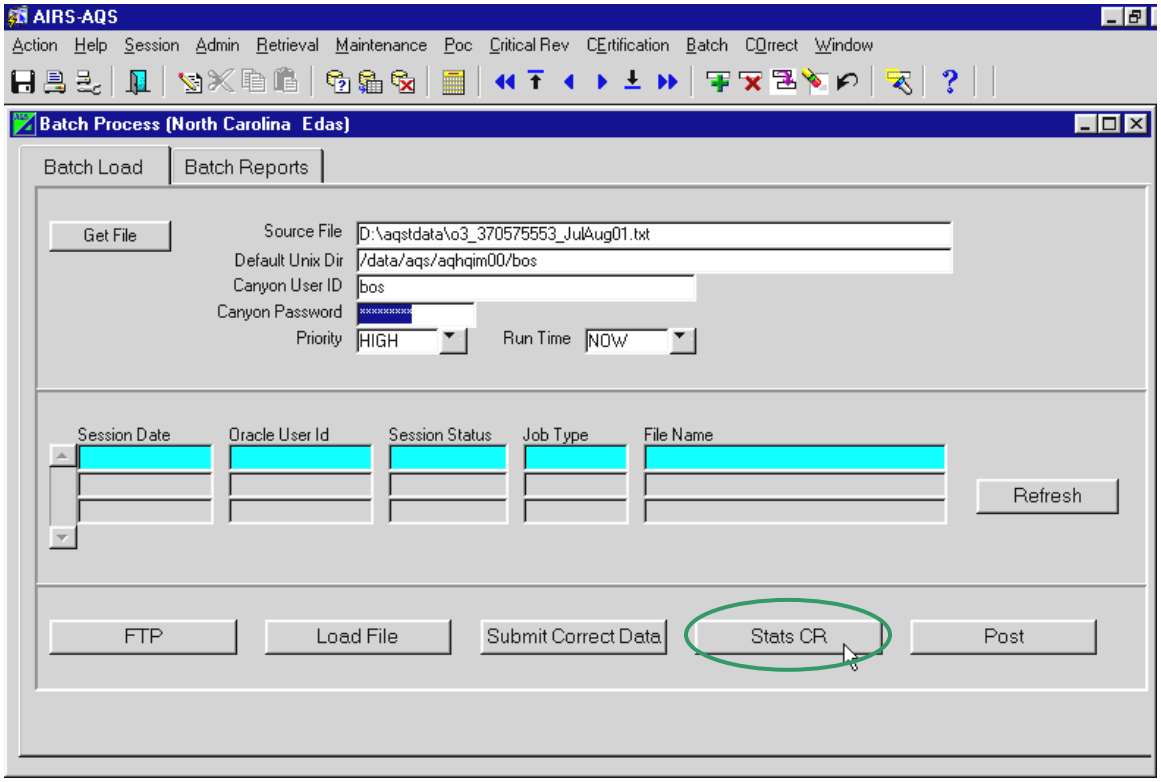


Figure 3-20

An informational window will advise you that the Stats CR has been started.

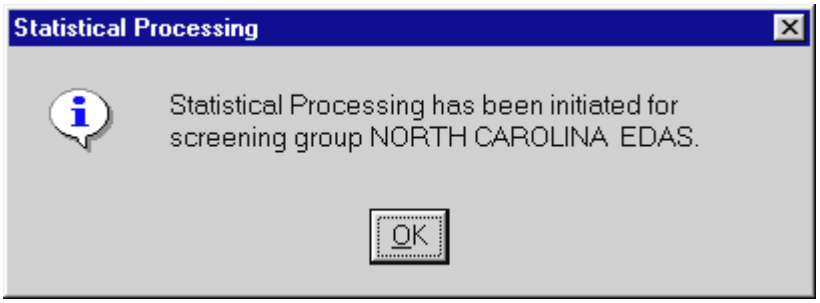


Figure 3-21

Wait for the Session Status to indicate the CRST job has completed before proceeding. Time required for this job varies depending on the number of records available for your screening group. (Press the Refresh button for updated session status.) You do not have to remain online while this process runs. An email will be sent to you when the job has ended.

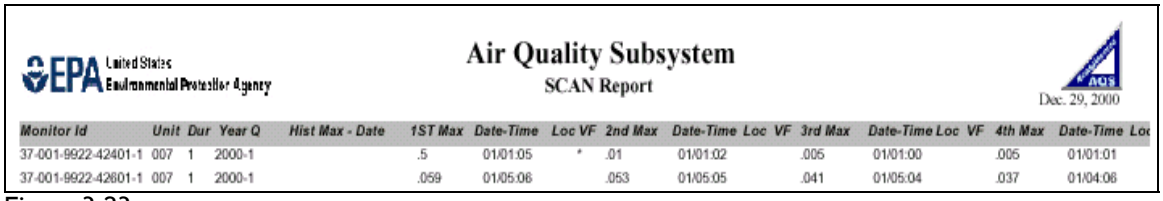
Figure 3-22

3.9 REPORTS FROM THE STATS CR JOB

Two reports are available from the completed Stats CR job. Both reports show results from simulating the actual posting of the data to production status. These reports are important tools to assist agencies in assuring the quality of their data.

Scan Report: The Scan report shows the maximum values reported during a quarter for each monitor with data being processed and indicates the existence of any validity flags for that data. If the value being shown is already in production status, a "D" (for database) appears under the Location (Loc) column.

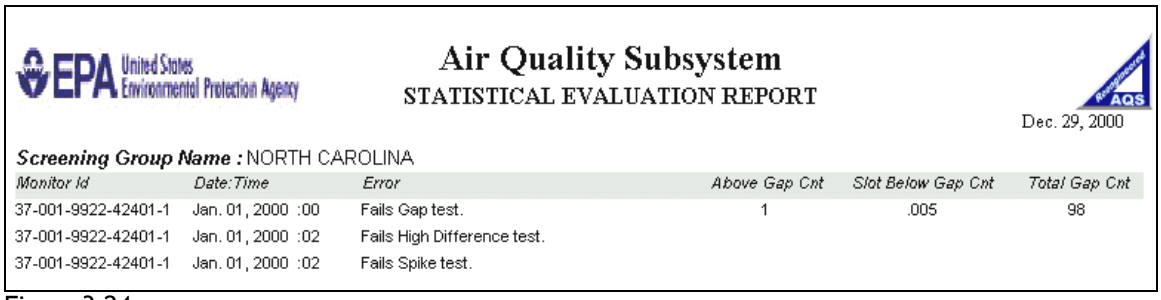
The sample report shown below shows data was being processed for two monitors: 37-001-9922-42401-1 and 37-001-9922-42601-1. For monitor 37-001-9922-42401-1, a 1st maximum value of .5ppm (Unit 007) for the 1st quarter of 2000 was recorded on January 1, 2000 at 5am (0500hrs), 2nd Max of .01 from 1/1/00 at 2am, etc. The 1st Max has a validity flag associated with it as indicated by the "*" in the VF column. All of the max values shown in this report came from the data still in the process of being loaded to production since none of them have a "D" in the Loc column. (Sufficient data was not available for this monitor to provide a historical maximum – Hist Max - value.)



Monitor Id	Unit	Dur	Year Q	Hist Max - Date	1ST Max	Date-Time	Loc VF	2nd Max	Date-Time	Loc VF	3rd Max	Date-Time	Loc VF	4th Max	Date-Time	Loc
37-001-9922-42401-1	007	1	2000-1		.5	01/01:05	*	.01	01/01:02		.005	01/01:00		.005	01/01:01	
37-001-9922-42601-1	007	1	2000-1		.059	01/05:06		.053	01/05:05		.041	01/05:04		.037	01/04:06	

Figure 3-23

Statistical Evaluation Report: This report shows the result of the Shewhart, Edit-Pattern and Gap tests for the pre-production data as if it has been placed in production status. To fully analyze this report, you must also look at the raw data for the day in question.



Air Quality Subsystem
STATISTICAL EVALUATION REPORT

Dec. 29, 2000

Screening Group Name : NORTH CAROLINA

Monitor Id	*Date:Time*	*Error*	*Above Gap Cnt*	*Slot Below Gap Cnt*	*Total Gap Cnt*
37-001-9922-42401-1	Jan. 01, 2000 :00	Fails Gap test.	1	.005	98
37-001-9922-42401-1	Jan. 01, 2000 :02	Fails High Difference test.			
37-001-9922-42401-1	Jan. 01, 2000 :02	Fails Spike test.			

Figure 3-24

The **Gap** test identifies a gap in the frequency distribution of a month's values. "Above Gap Cnt" is the number of values above the gap. "Slot Below Gap Cnt" is the value on the low end of the gap.

High Difference and **Spike** tests are pattern test failures. The value of "1" for 1/1/2000 at 2 a.m. is significantly higher than the values for 1 a.m. and 3 a.m. so it shows up as a high difference and a spike.

3.10 MODIFYING PRE-PRODUCTION DATA

If your review of the Scan or Statistical Evaluation report identifies data with errors, use the **Maintenance** option from the **Main Menu** to modify this data online. If large numbers of records need modifying, it may be quicker to:

1. create batch transactions to Update them

   - or -

2. delete all the pre-production records, make the corrections in the data input file on your PC and start over with FTP.

Use of the Maintenance option is covered in a later chapter.

3.11 POSTING DATA TO PRODUCTION STATUS

Once you are satisfied that your data is ready to go into production status on the AQS database, run the **Post** batch job.

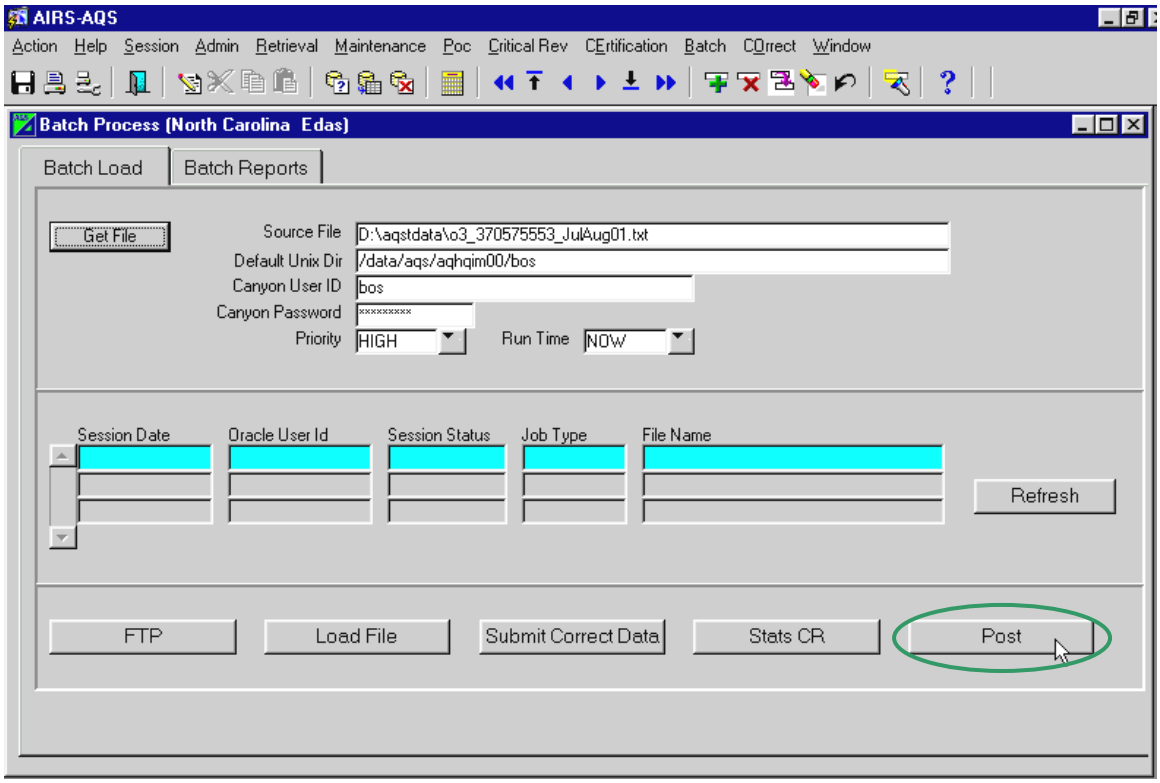


Figure 3-25

Unlike the other buttons on the Batch Load screen, Post does not immediately submit a batch job. After data is "posted", it is available to all users of AQS. The extra screens included as part of the Post process allow the user posting the data to verify that this is the data to be posted and that all questionable values are correct.

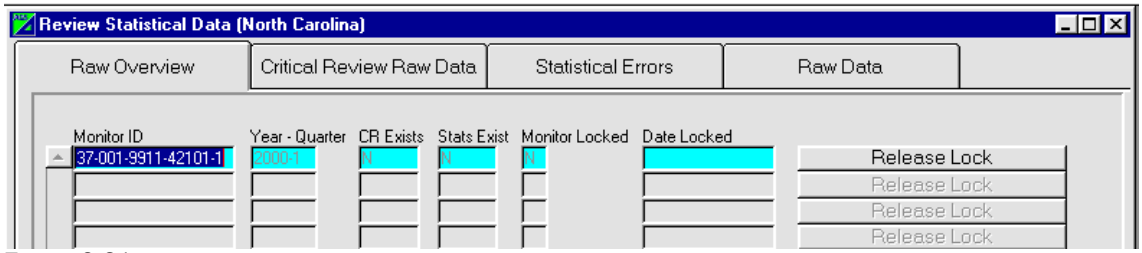


Figure 3-26

The Raw Overview tab for this batch shows raw data is present for the first quarter of 2000 for monitor 37-001-9911-42101-1. The next two columns have values of "N". This means that posting this data will not create any Critical Review records (CR Exists) or atypical Statistics will result (Stats Exist). If a "Y" appears in either column, you may review the data involved by clicking on the appropriate tab. (If more than one row of data appears on the Raw Overview screen, highlight the row you are interested before moving to another tab.)

A "Y" in the Monitor Locked column means the system thinks the monitor is currently being updated and therefore not available for other updates at the moment. The "Date Locked" column would then help you decide whether the monitor is correctly locked, or inadvertently locked by a prior action and needs to be released. This, of course, should not happen, but if the monitor is locked erroneously, you may release it by clicking the "Release Lock" button.

The Raw Data tab contains the "Post to Production" button. You may not modify any data from this screen other than your user ID information.

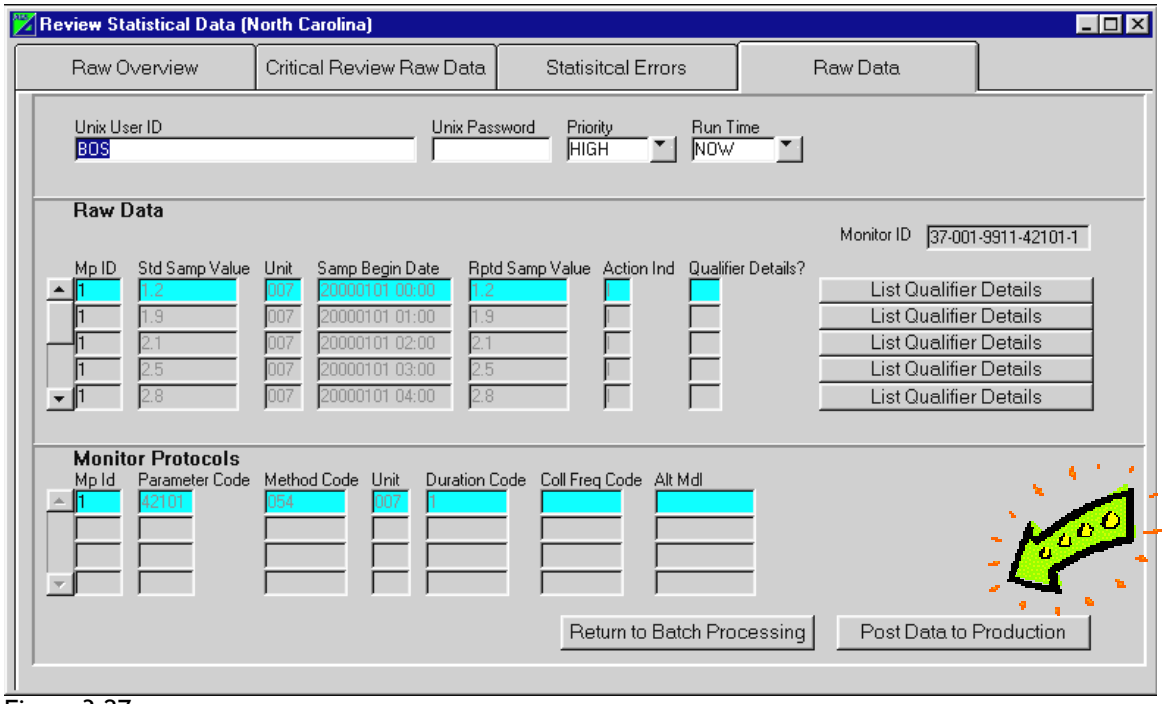


Figure 3-27

Raw data values appear in the middle section of the screen for the Raw Data tab. Notice the first column is called "Mp ID", short for Monitor Protocol ID. Monitor Protocols are visible in the lower section of the screen and identified by a sequentially assigned Mp ID. The "Action Indicator" (Action Ind) column will show whether the record is an Insert, Update, or Delete action.

Since more than one qualifier is possible for any given data value, a "Qualifier Details?" column is included. If a "Y" appears in that column, a click on the "List Qualifier Details" button to the right of the value will show the qualifiers for that value. An example of this is shown below for the record with the Sample Begin Date 20000102 13:00. The Qualifier Details window shows the Qualifier Code and its description. (Any time there is no sample value reported for a sampling date, a null data code should exist as a qualifier detail. Qualifier details are used to indicate a reason for an unusual sample value, e.g., as "C" Volcanic Eruptions.)

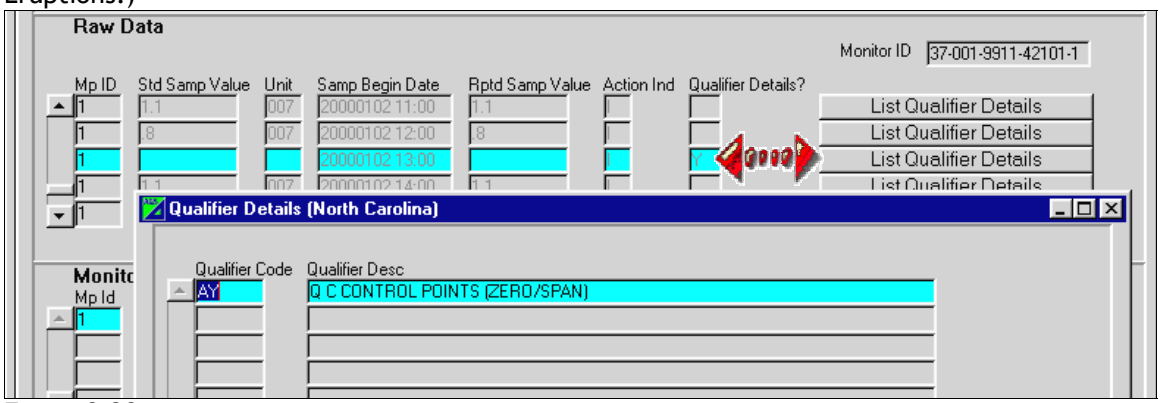


Figure 3-28

To post your raw data to production status, enter your UNIX (Canyon) password at the top of the screen and click on the "Post Data to Production" button at the bottom of the screen.

Wait for the confirmation window.

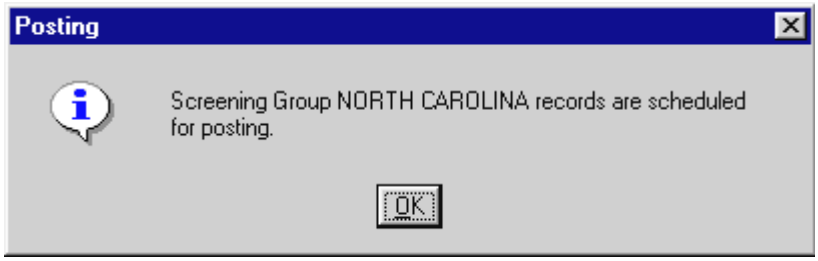


Figure 3-29

After the job is submitted, click "Return to Batch Processing" to monitor the progress of this "Post" job.

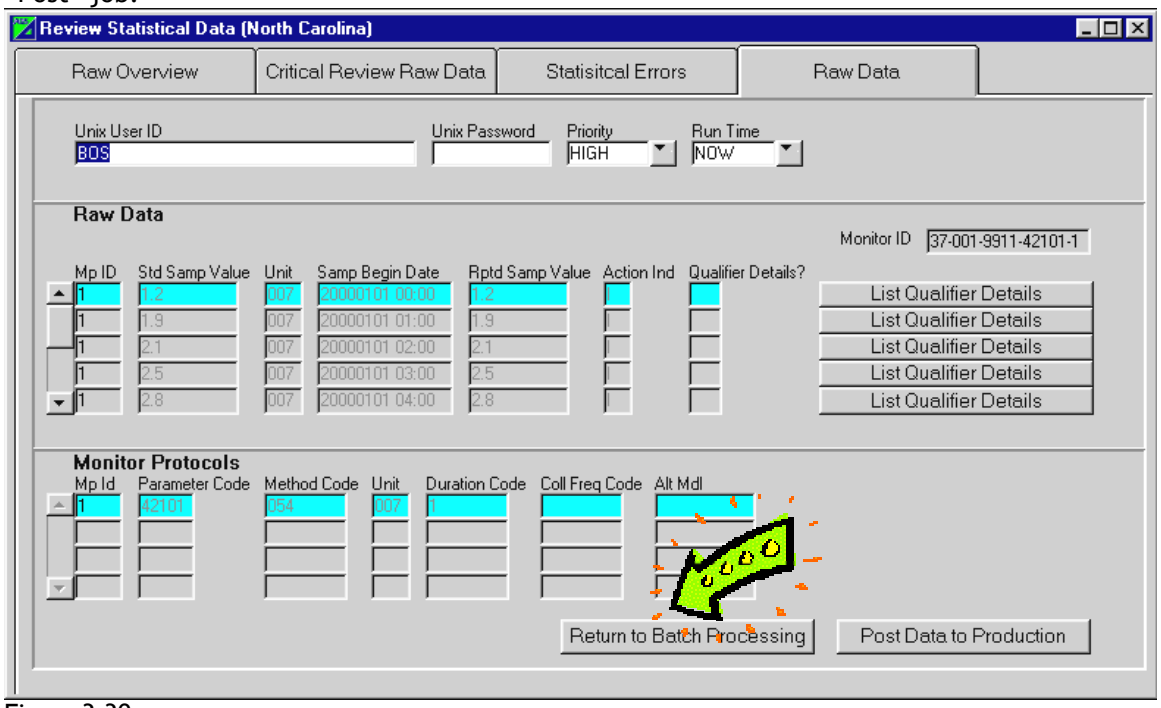


Figure 3-30

If the session status changes to "Completed", your raw data records are in production on the database. If the job ran and any other status appears, wait for the confirming email to determine the reason for the job failure.

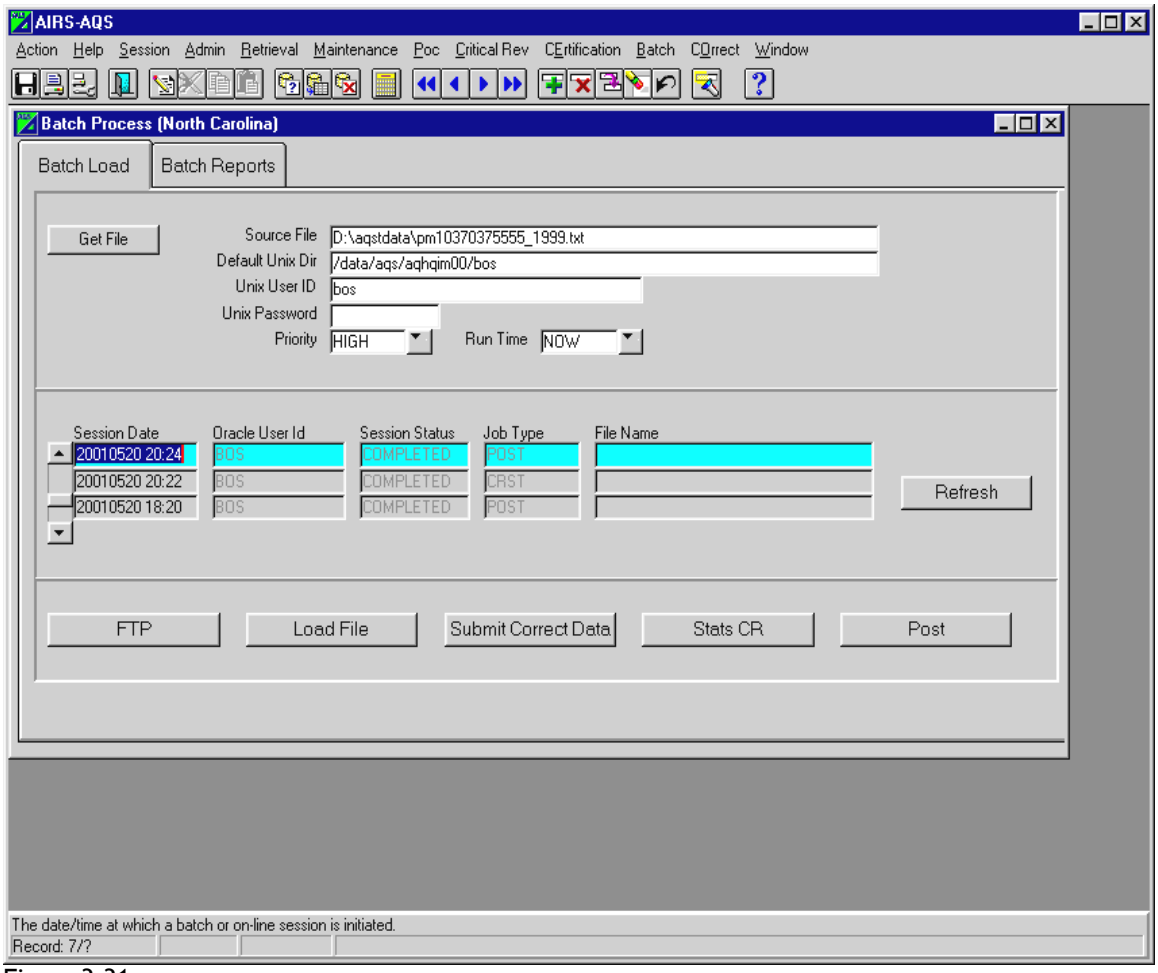


Figure 3-31

3.12 RAW DATA INVENTORY REPORT

Raw Data Inventory: The final report on the Batch Reports tab allows you to view and print a summary of raw data posted to production for the current batch of data. Running this report is not a requirement but is a way to verify data was posted on a summary basis.

Be sure the session highlighted is for a job type of "post" and the one of interest.

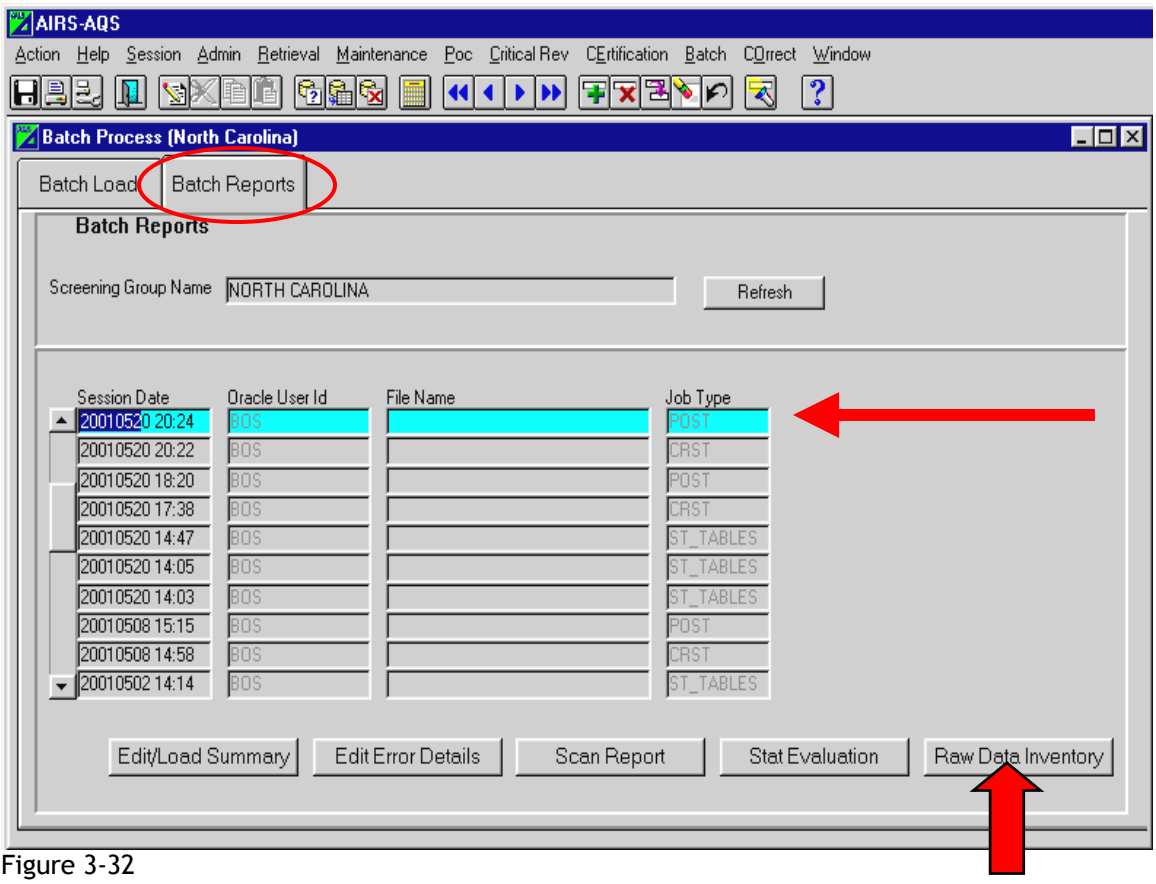


Figure 3-32

The sample report below shows that data was posted for two monitors. A row is listed for each monitor/duration/year-month combination. Agencies may wish to retain this inventory report for their records.

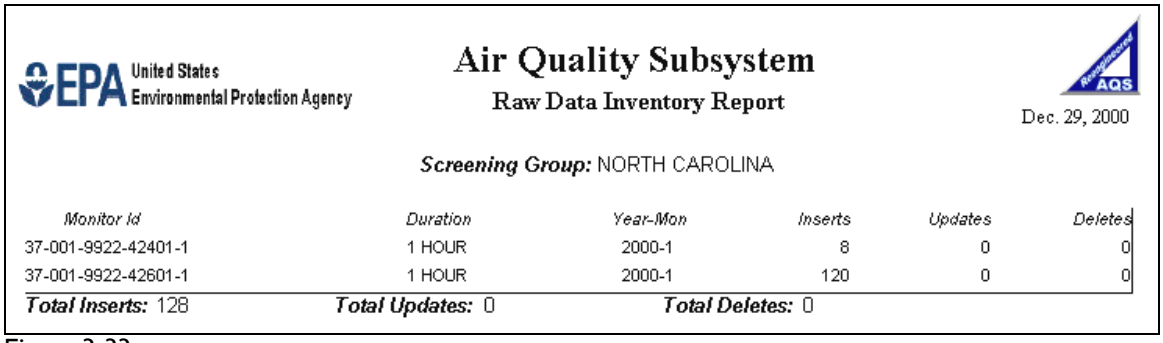


Figure 3-33

3.13 CLEANING UP

When you are finished with a data input file, delete it from your account on the EPA FTP proxy server (Volcano). You are responsible for cleaning up your remote directory. There is a limited amount of space available for data input files on the EPA server, so if you do not delete old files, at some point you will be unable to FTP new files to EPA.

Files may be deleted from Volcano by using your FTP program (see section 3.4 Using FTP). Be sure you are in the right directory on the Remote Site, highlight the file to be deleted and click on the Delete button.

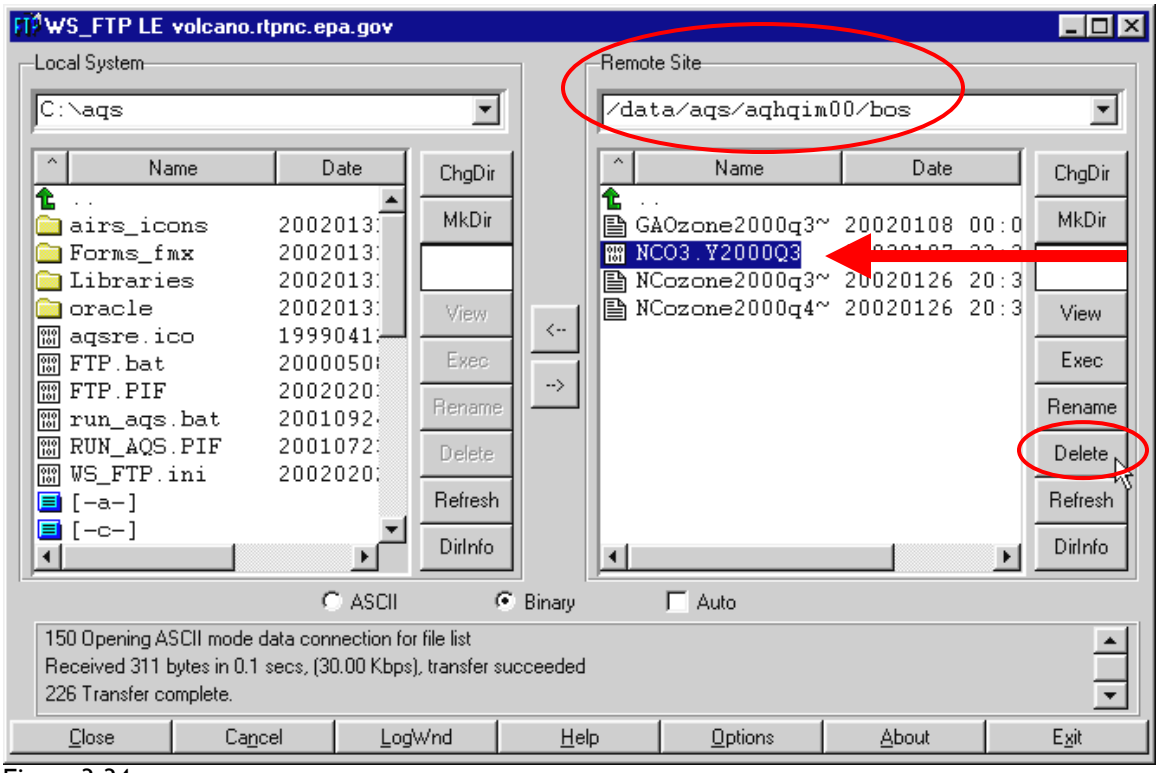


Figure 3-34

You will not be able to view files in directories to which you are not authorized access. "Permission denied"

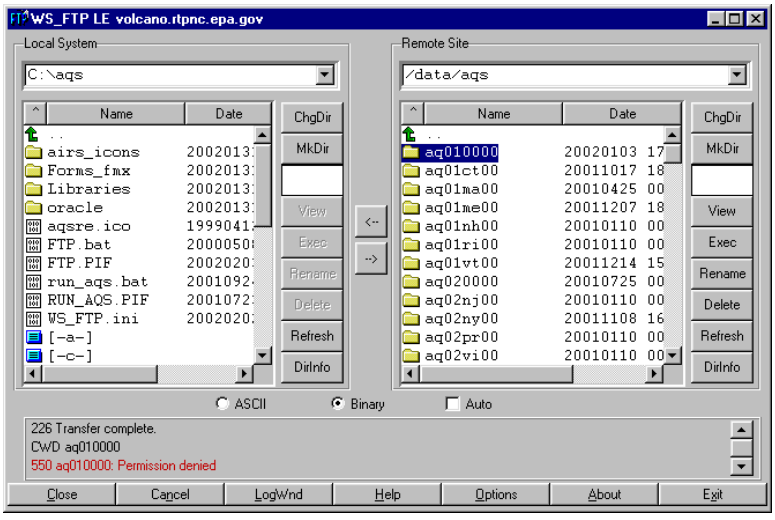


Figure 3-35

Chapter 4 - Online Maintenance

4.1 Overview

The **Maintenance** option on the Main Menu is used for online browsing data and for relatively low volume inserts, updates, or deletes. You must be logged into a Screening Group to insert, update, or delete data with the Maintenance option since screening groups control the "ownership" of data.

If you are in a "Read Only" session, you may view all data in the database that is in production status. If you are logged into a Screening Group, you may view only data owned by that screening group, but that data may be in either production or pre-production *status*.

All data viewed through this option are in the ***production tables***.

Transactions that do not pass the basic errors during the Load File batch job are placed in the staging tables. Those transactions stay in the staging tables until they are corrected and re-processed successfully, or deleted. Data in the staging tables are viewed with the **Correct** option.

4.2 Inserting a new site and monitor - Manual Entry

Maintenance is the primary method for adding new site and monitor data. Site and monitor data is validated as it is entered. Data passing all of the edits goes directly into production status in the production tables.

To add a new site, be sure you are logged into your Screening Group. Navigate to the **Site Maintenance** screen by selecting Maintenance, Site from the **Main Menu**.

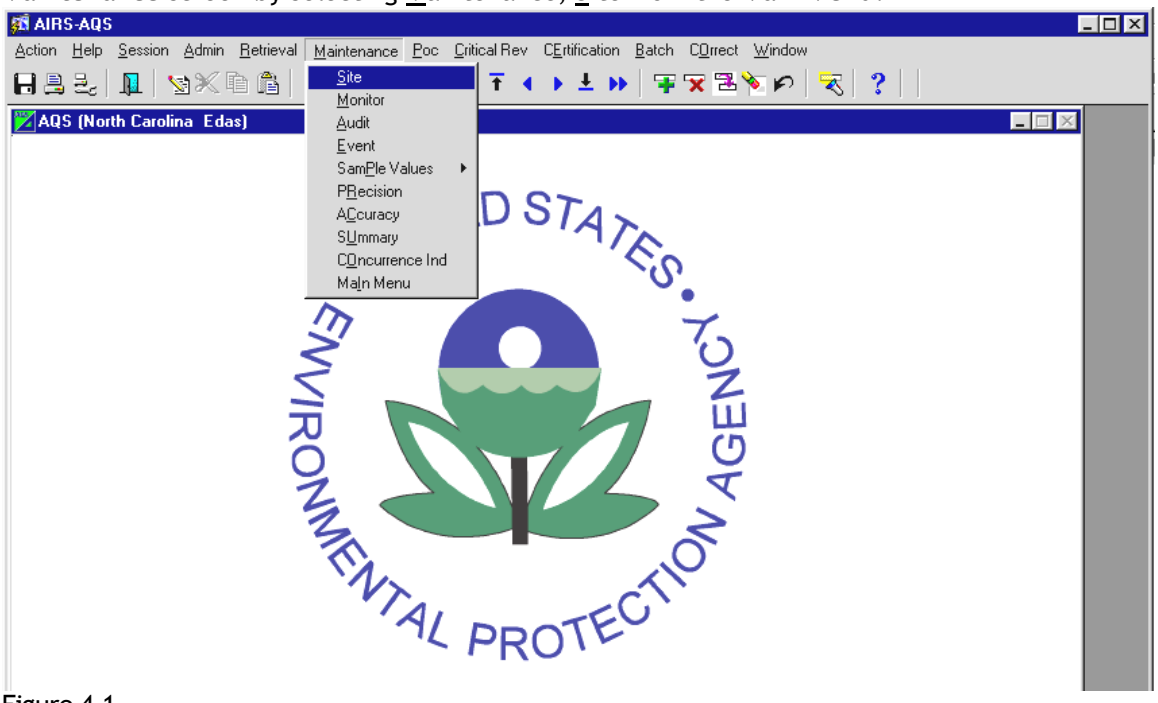


Figure 4-1

Manual Entry Step 1: Site Data

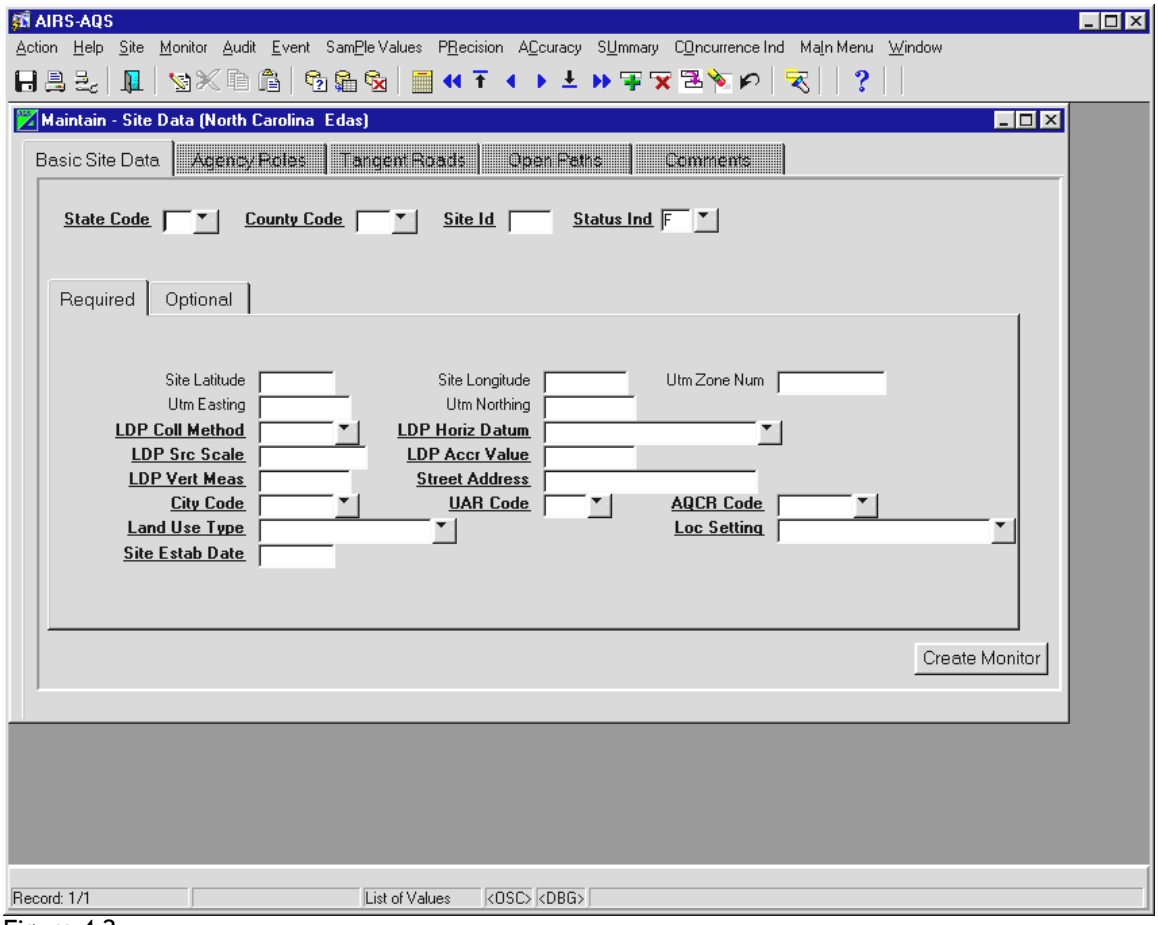


Figure 4-2

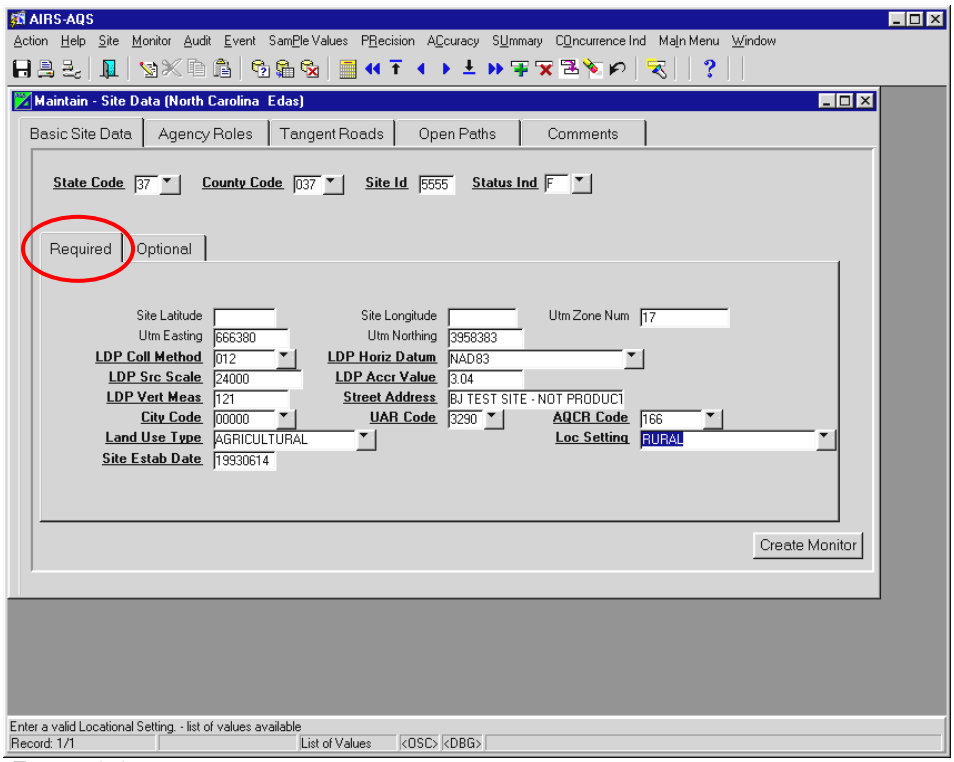
When the Maintain Site screen appears, it is ready for you to enter new site data. (If data appears, click on the Insert Record icon ( ) to switch to data entry mode.) Enter the appropriate State Code, County Code, and your chosen Site Id. (Use the tab key to quickly move from field to field.) You may enter the values for state and county directly, or select them from the LOV ( ). Using the LOV ensures the value is valid according to AQS. See Appendix E for tips on using LOVs.

In general, all fields on the **Required** tab of **Basic Site Data** are required. The exception is Latitude/Longitude or UTM data. Either Lat/Long OR UTM data must be entered, but *not both*. Choose which group of data you prefer to enter and type it in the appropriate box.

A Supporting Agency, entered on the **Agency Roles** tab, is also required for a new site.

If you try to save a site record with missing required fields, you will receive an error message, such as this one.

Figure 4-3



Sample site data on Required tab.

Leave the Status Ind as F.

Figure 4-4

When you have finished the **Required** tab, go to the **Optional** tab for Basic Site Data and enter any appropriate data there.

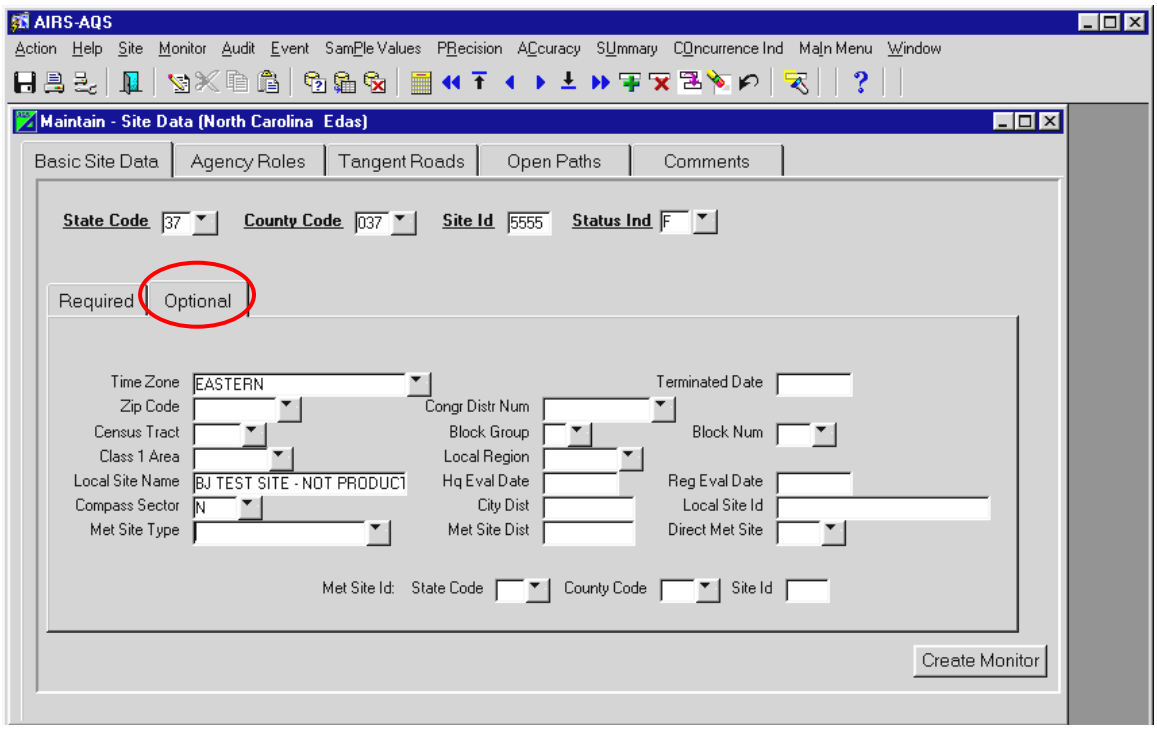


Figure 4-5

Provide a Supporting Agency via the **Agency Roles** tab.

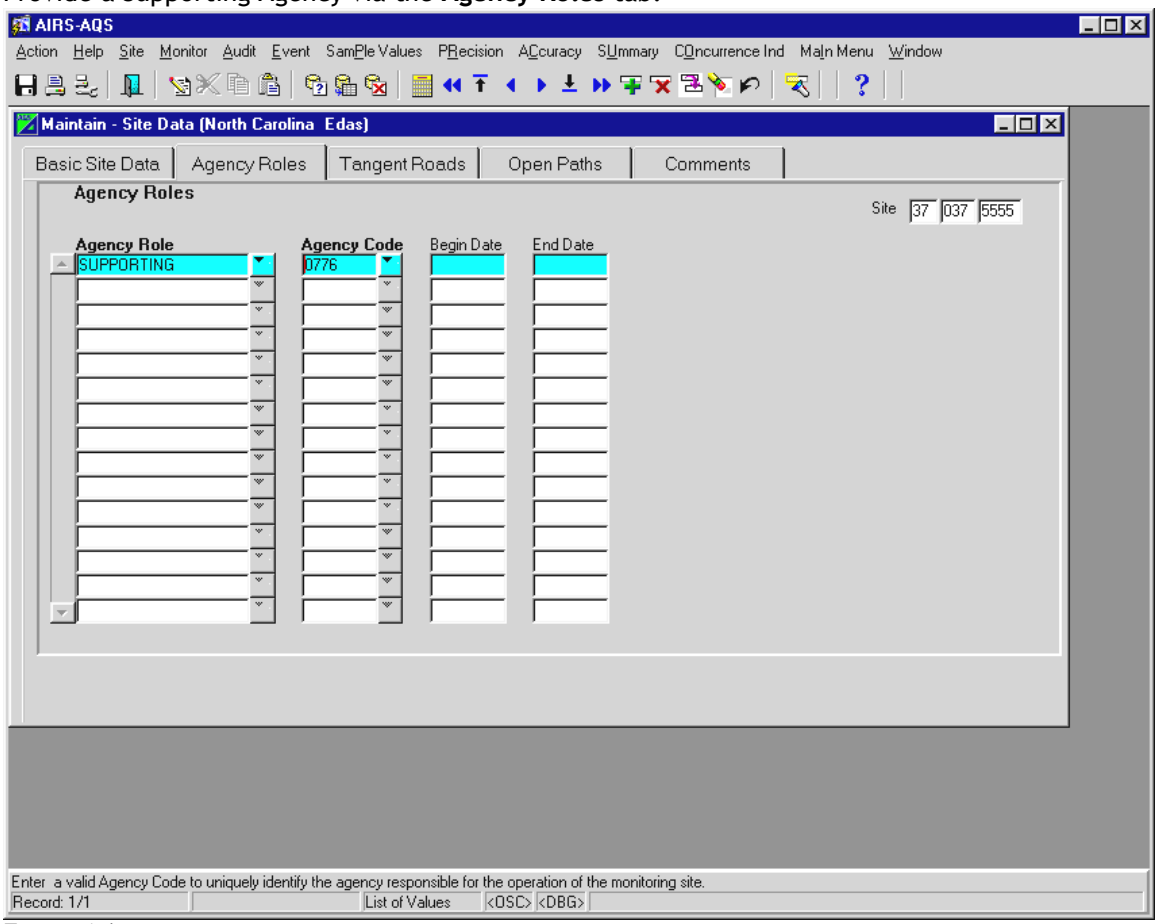


Figure 4-6

Complete applicable fields on any other tabs (**Tangent Roads**, **Open Paths**, and **Comments**) for Site Data.

Tangent Roads, Open Paths and Comments must be numbered within a site. It is generally recommended that you number each type sequentially, although this is not required. The number you assign at the site level may then be used on the monitor records for that site. (They will show up in the LOV for the field on the monitor record.)

Sample Tangent Road data for a site:

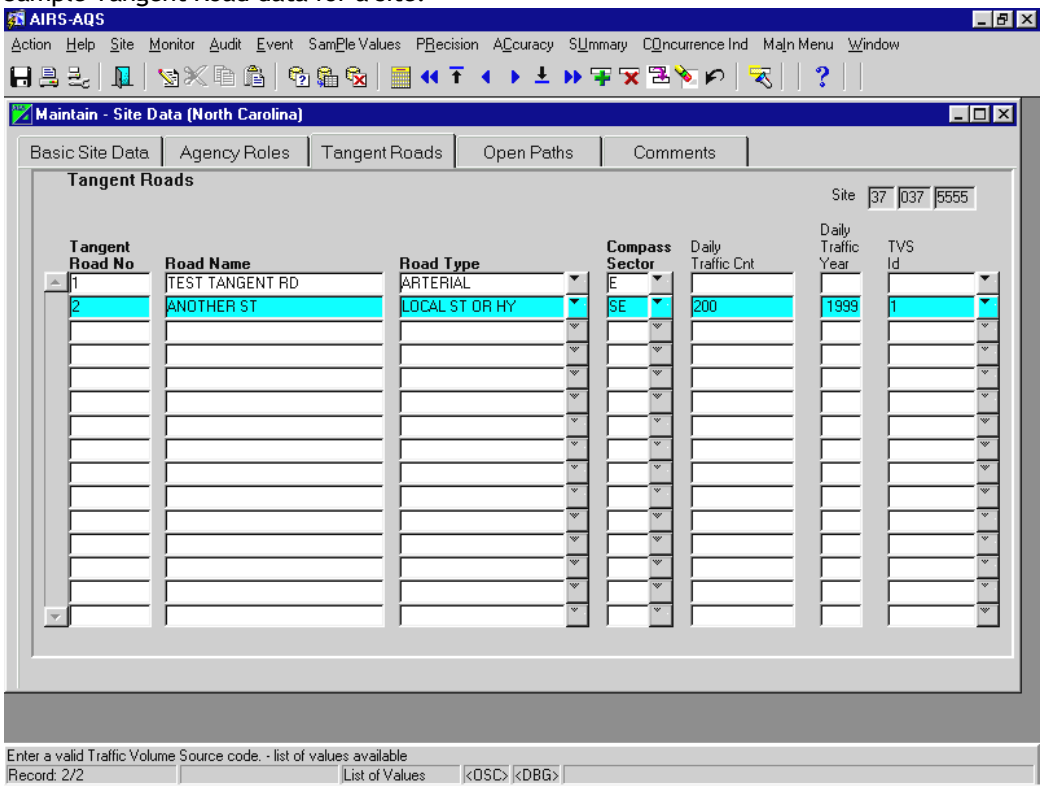


Figure 4-7

Sample Open Path data for a site:

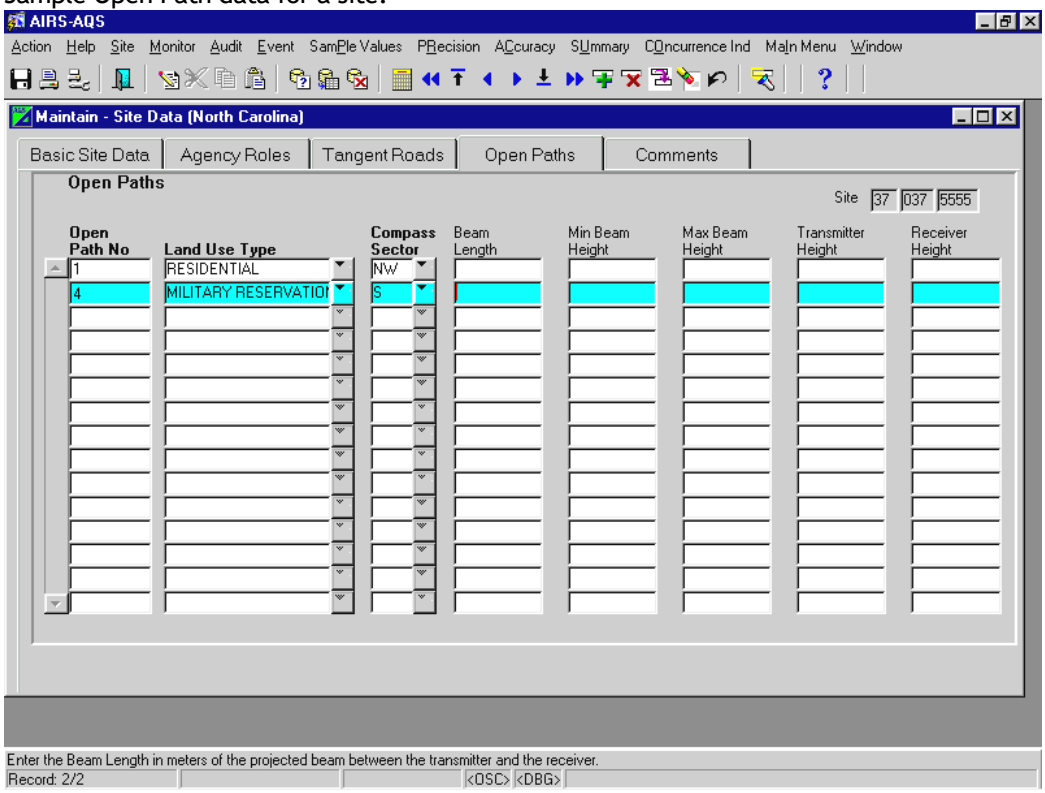


Figure 4-8

Sample Comment for a site:

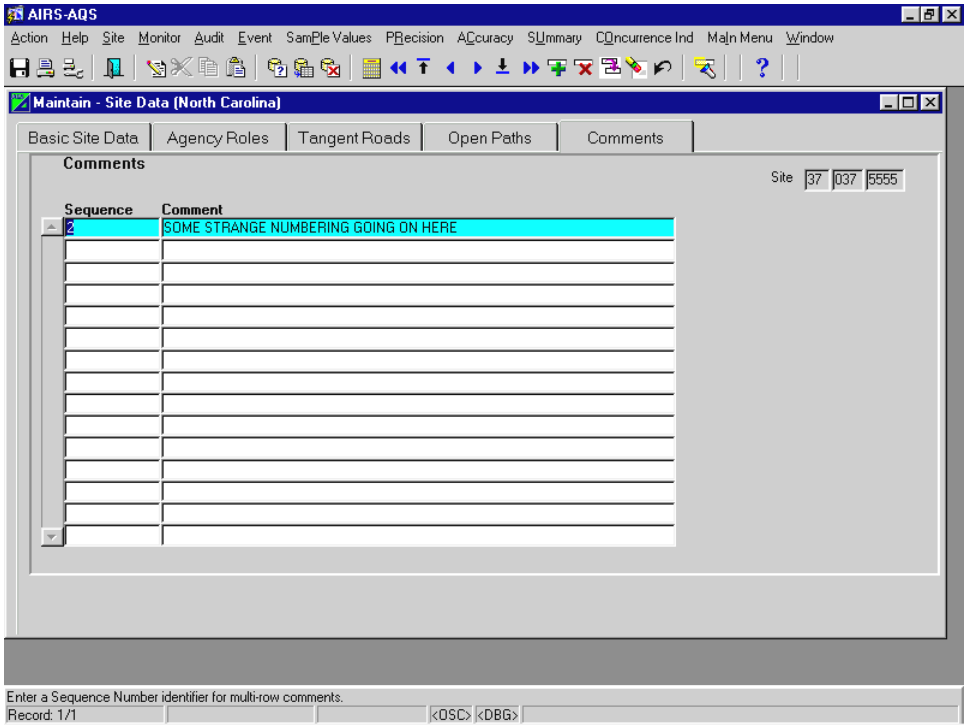


Figure 4-9

When you have entered all the data for a site, Save your data (💾) or continue with Step 2.

Manual Entry Step 2: Monitor Data

If you have just created a new site, click on the **Create Monitor** button on the lower right portion of the **Basic Site Data** screen. If you haven't yet saved your site data, you should see an informational screen (it's informational even though it appears to be an error) indicating your site transaction is complete and records have been saved.

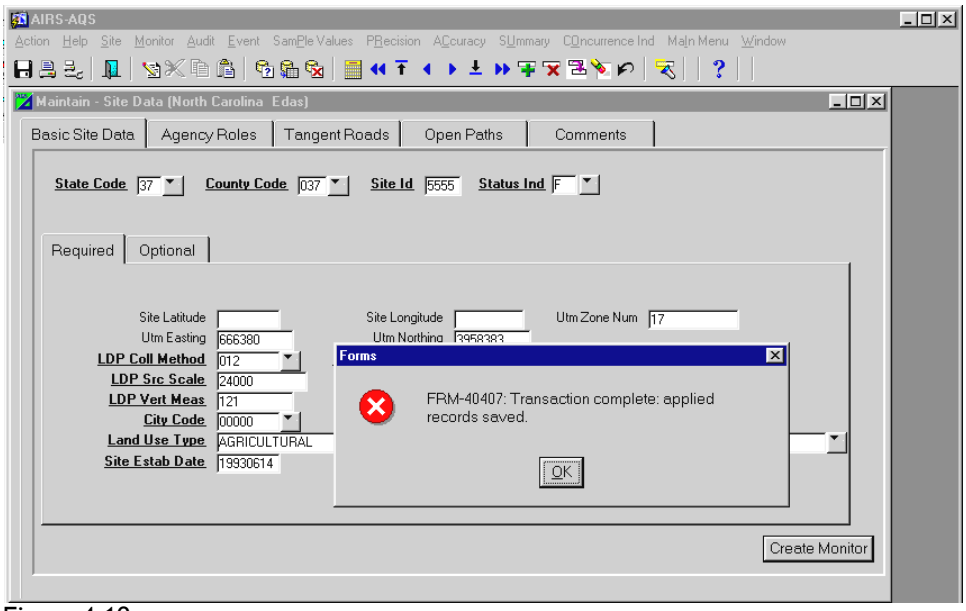


Figure 4-10

Click **OK** to move on to the entry screens for your first monitor at this site.

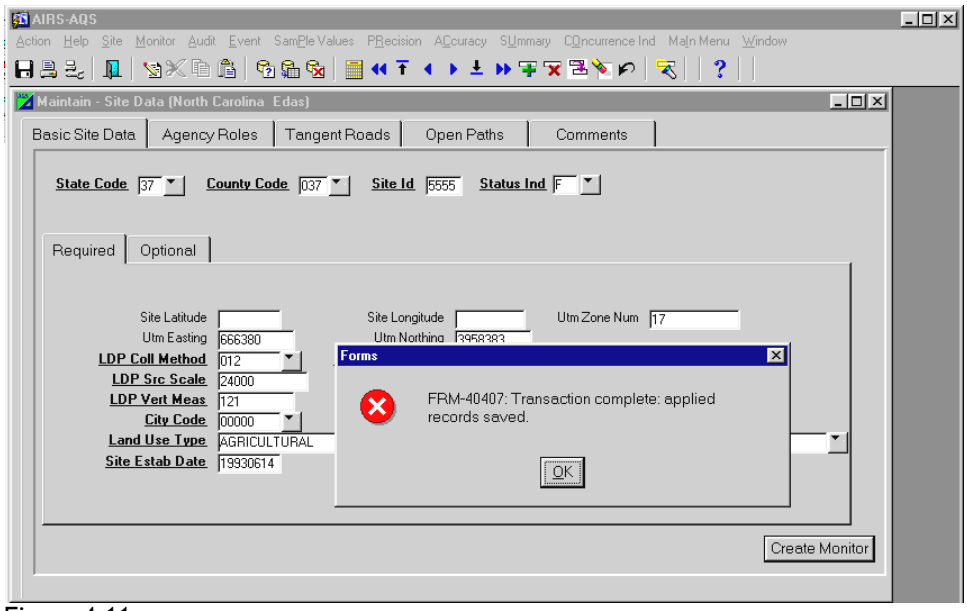


Figure 4-11

The only required fields on the **Monitor Basic** tab are those in the top box and the only ones remaining blank here are the Parameter Code and POC. AQS "remembers" the site information from the previous screen.

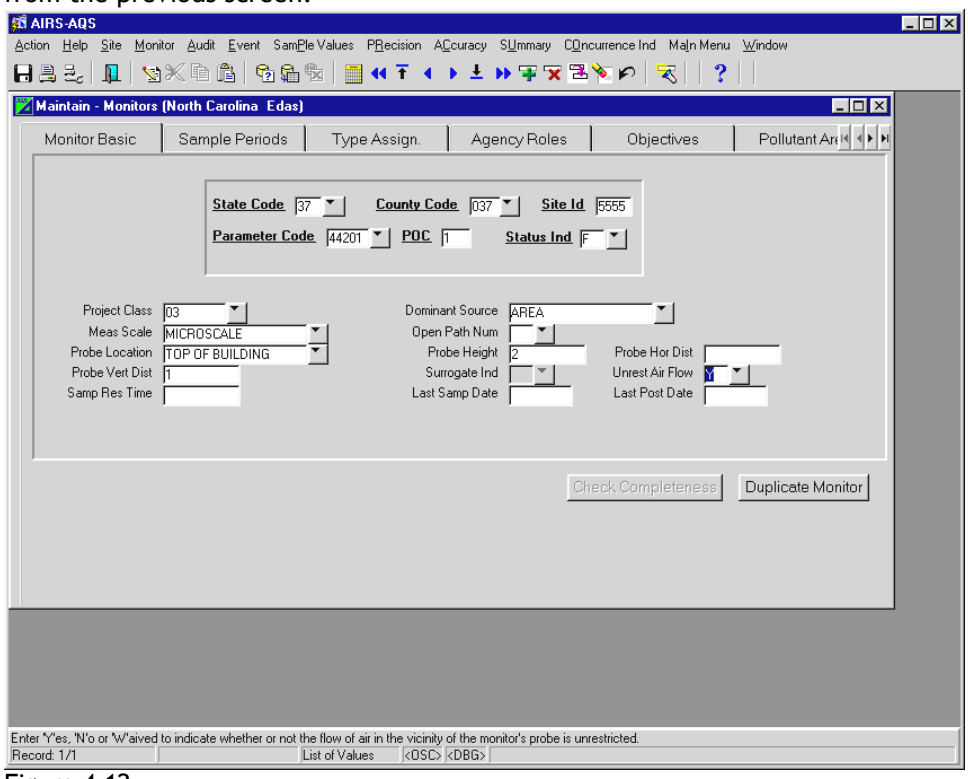


Figure 4-12

Complete all fields for which you have values. Monitor data encompasses up to 13 screens of data. Some fields are required; some are not. Some files are required only if another field is valued. If you try to proceed without completing a required field, you will receive a warning about the missing

field. For all monitors, at least one Sample Period Begin Date, Monitor Type with a Begin Date, and Monitoring Objective Type are required. PM, SLAMS, NAMS, and PAMS monitors require various additional fields.

Sample screens for each monitor tab are shown below for an existing NAMS monitor.

When you have completed the monitor screens, SAVE your data (🖫).

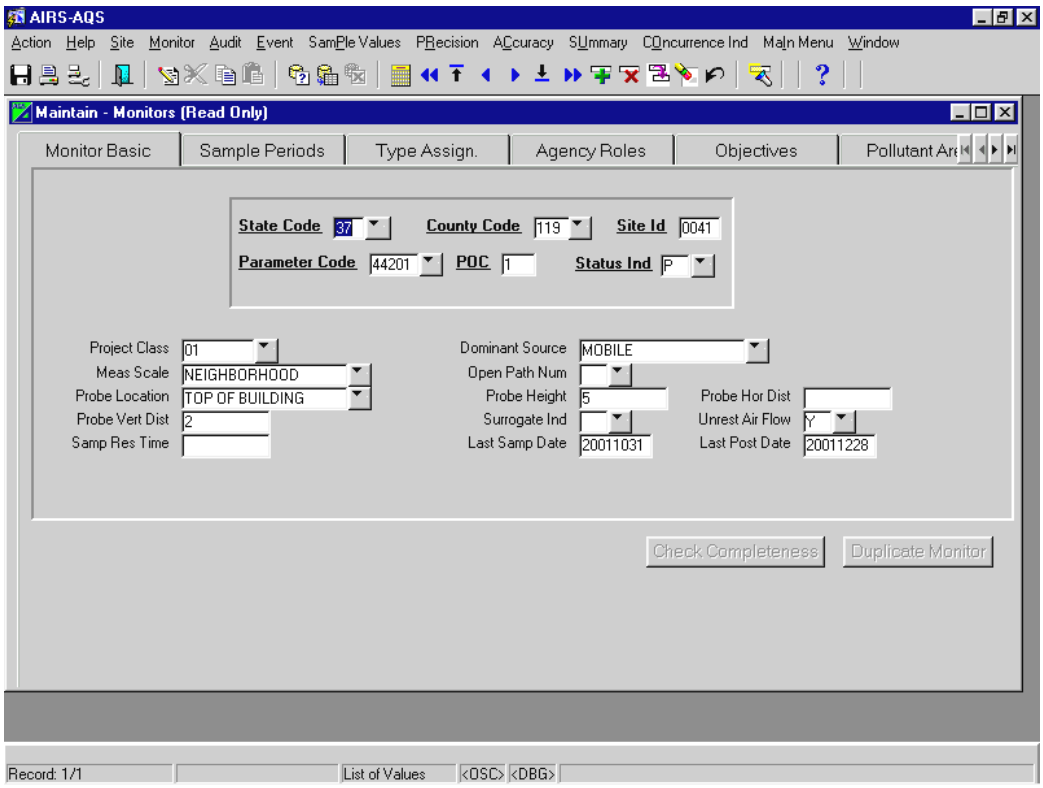


Figure 4-13

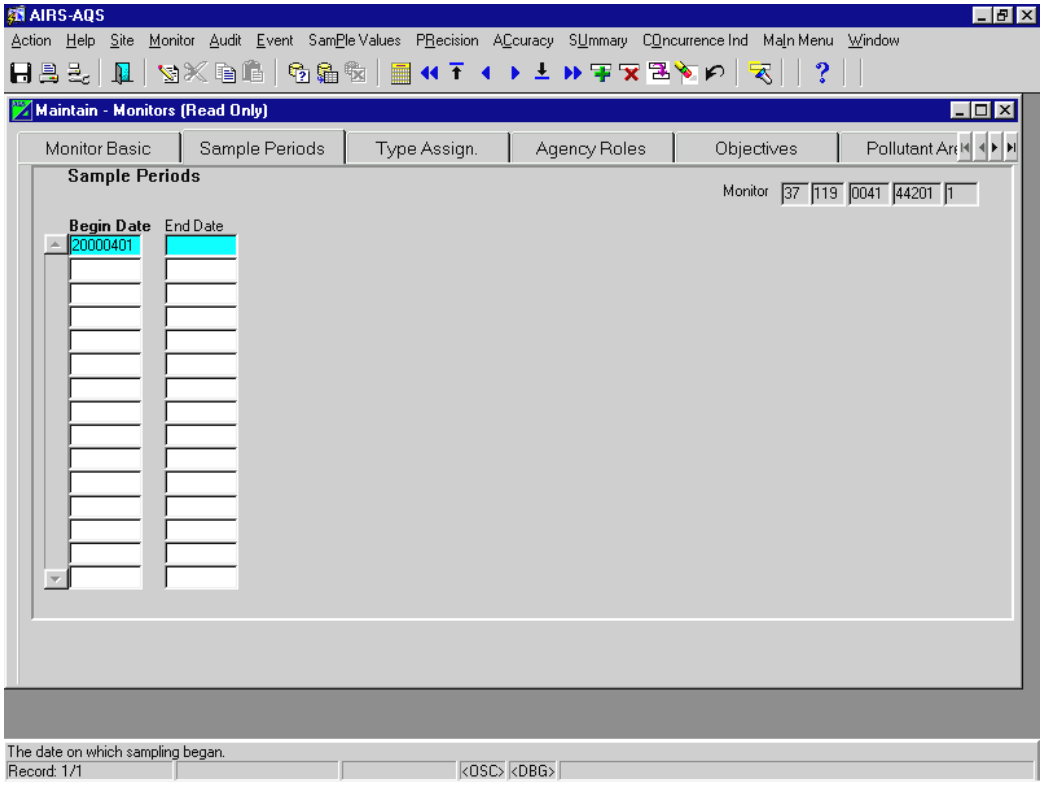


Figure 4-14

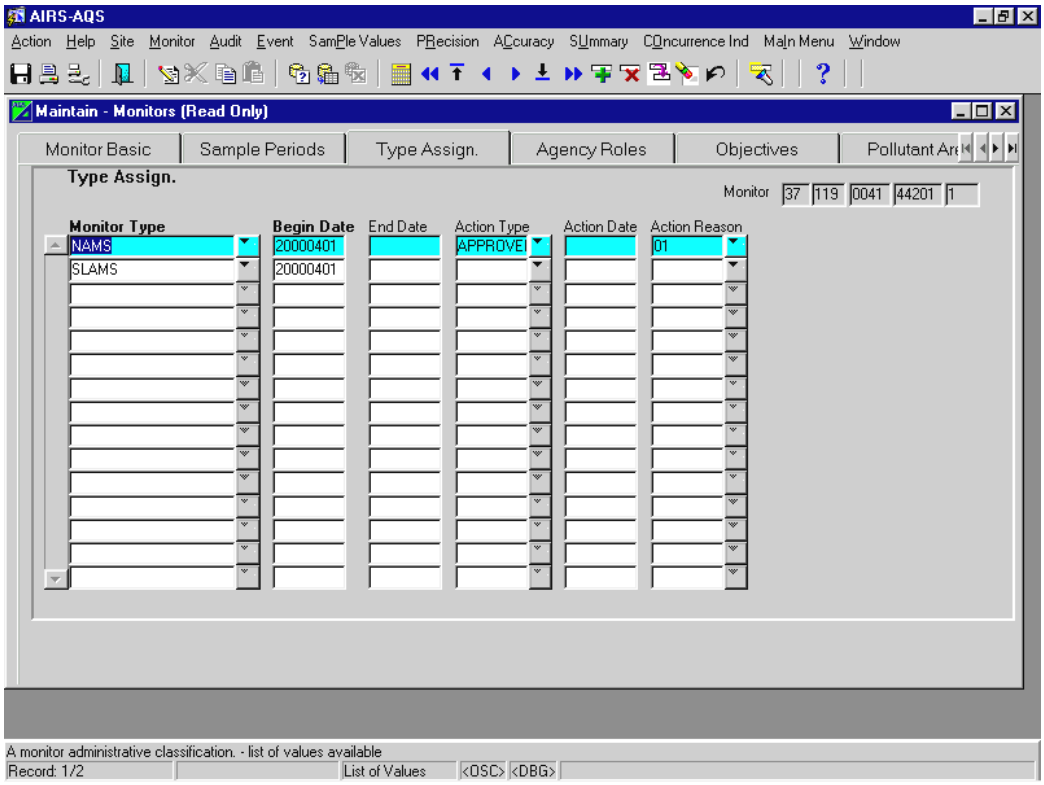


Figure 4-15

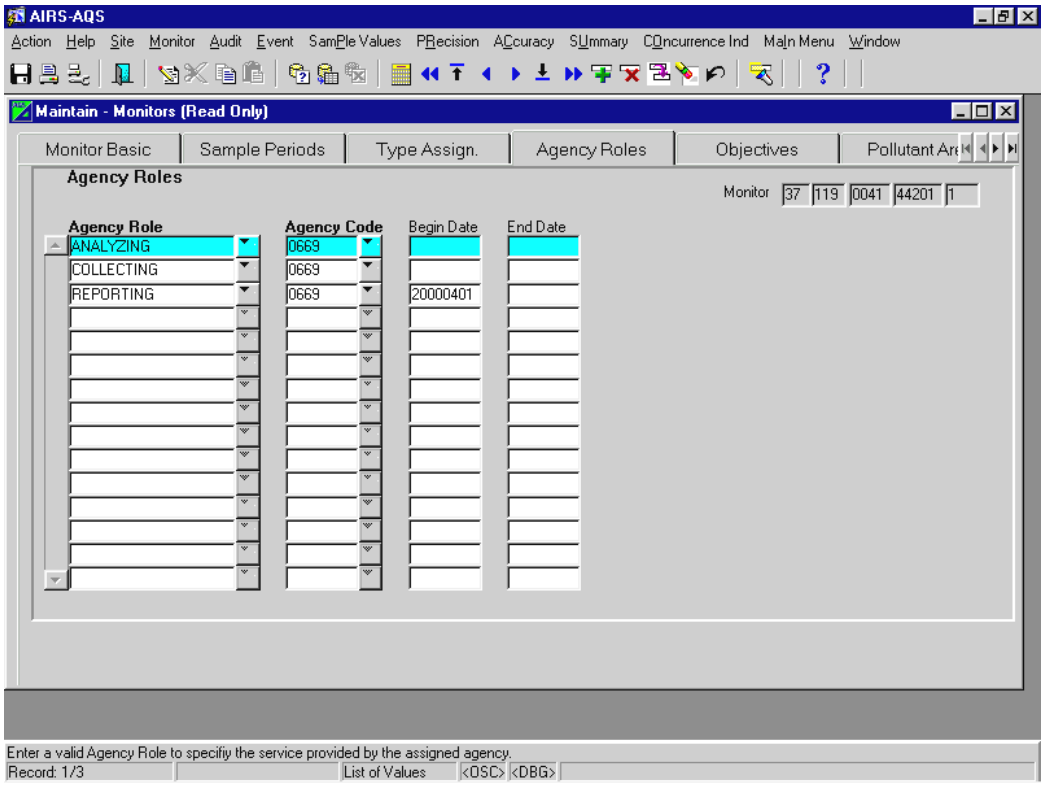


Figure 4-16

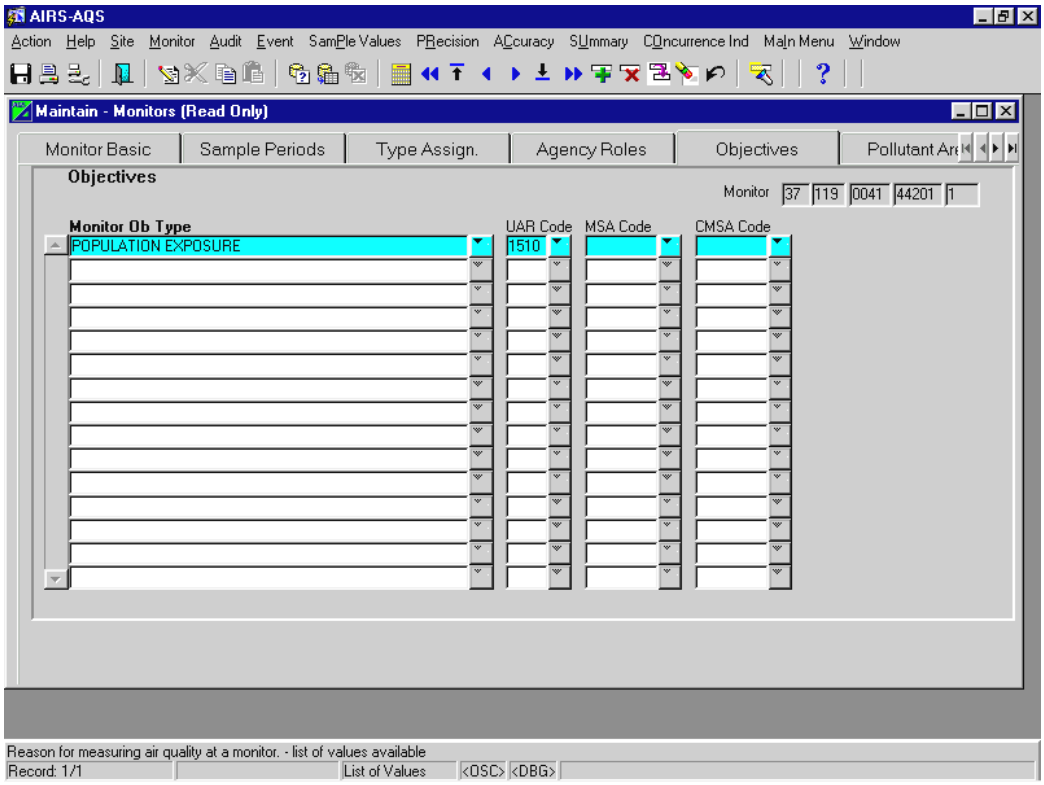


Figure 4-17

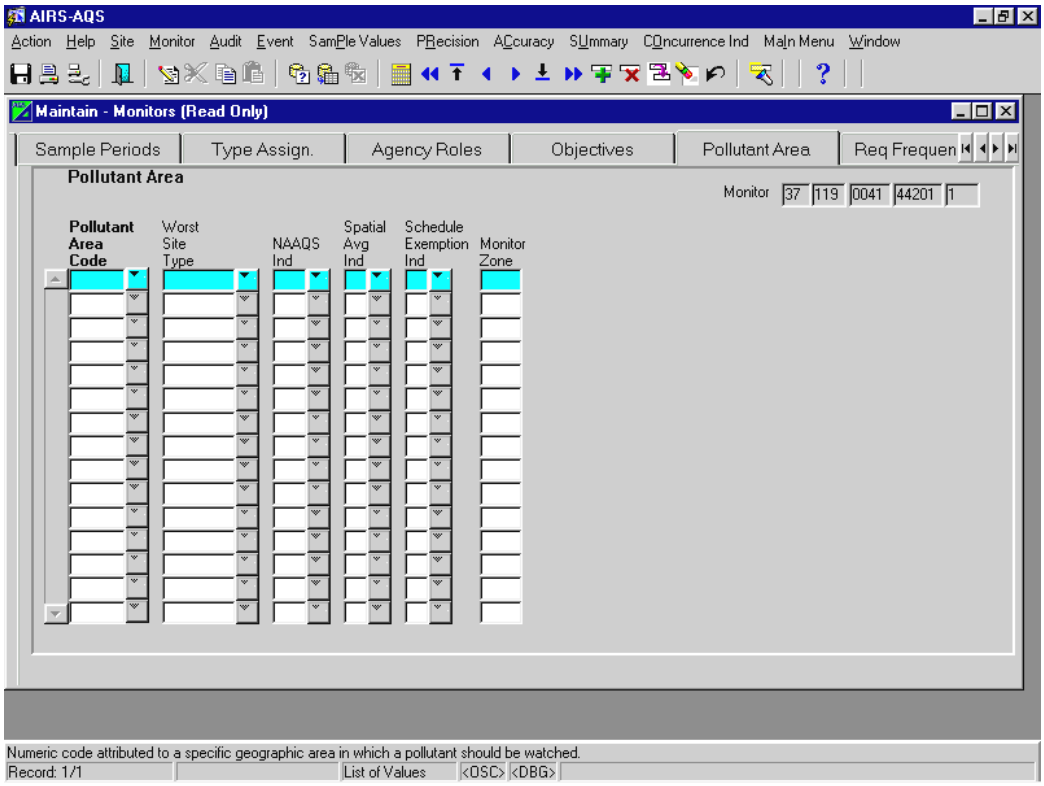


Figure 4-18

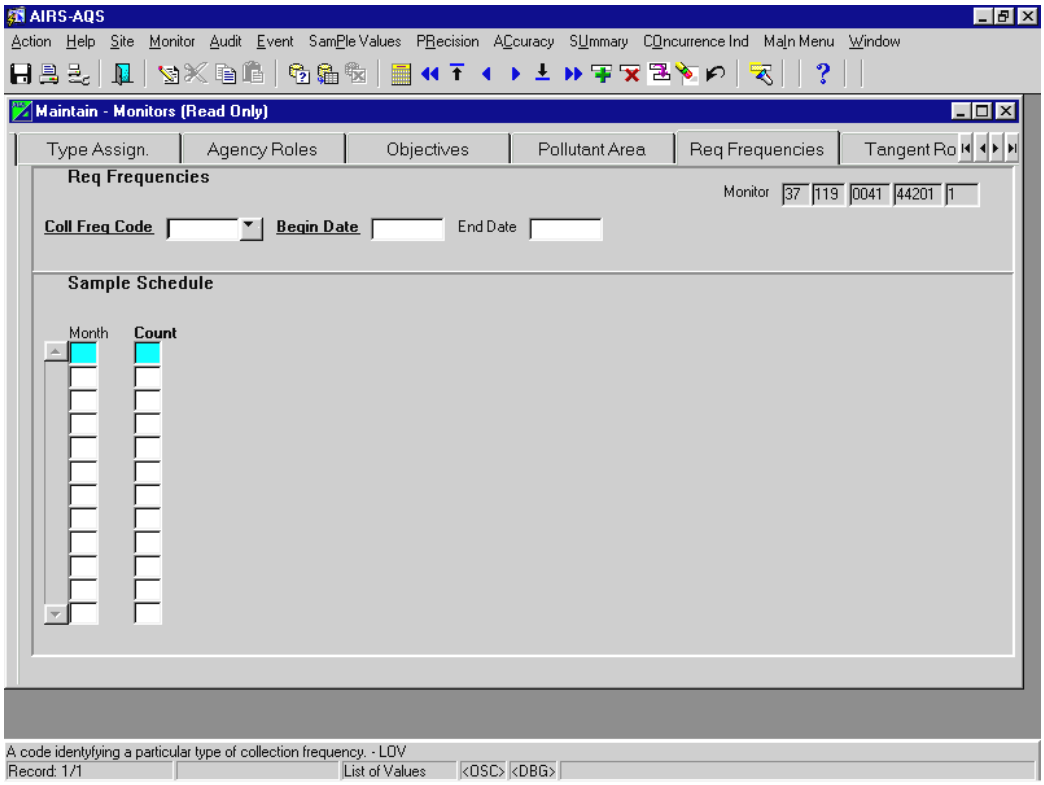


Figure 4-19

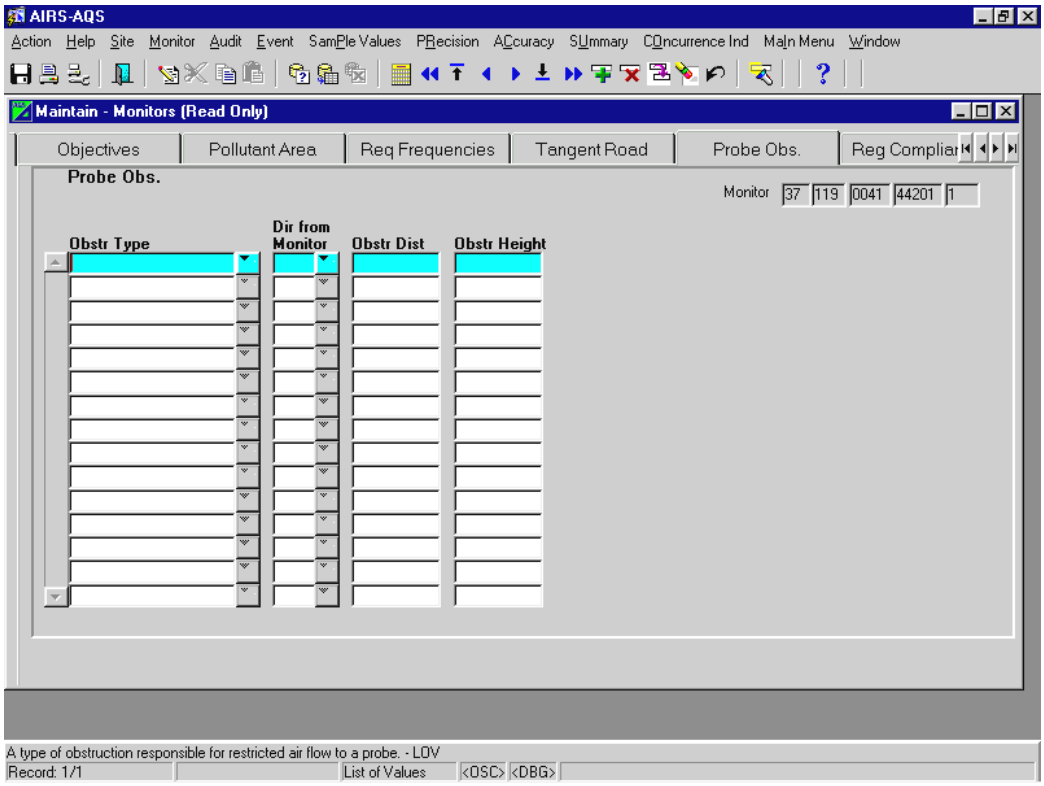


Figure 4-20

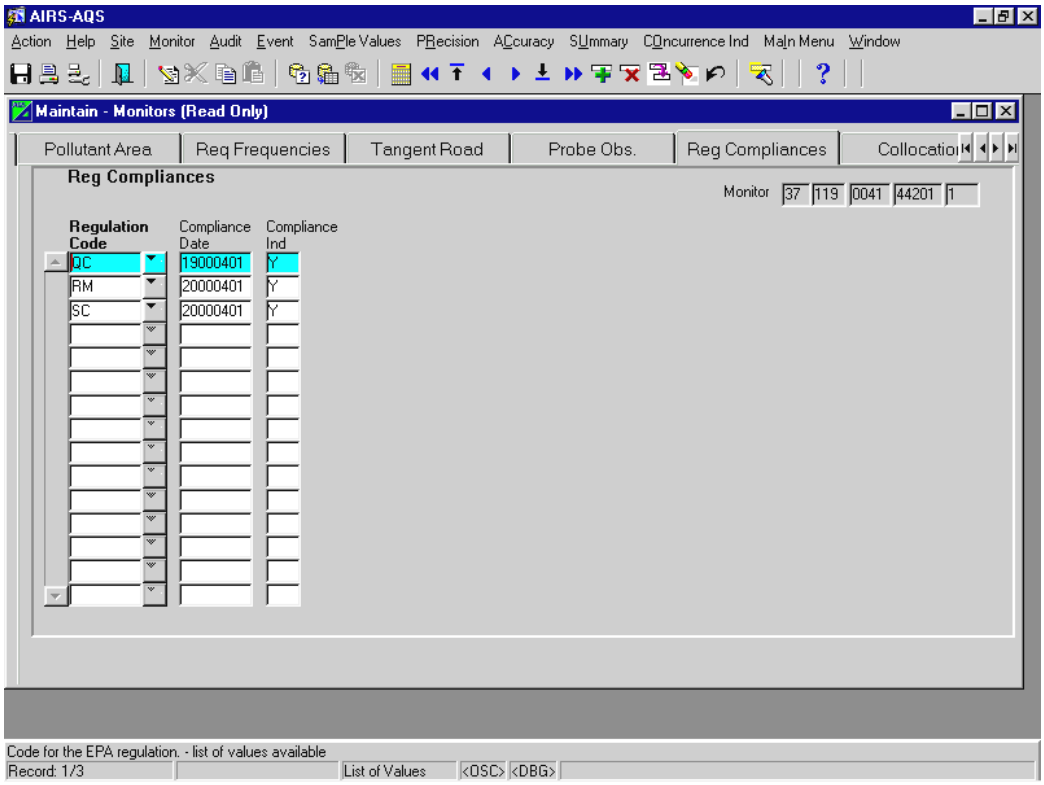


Figure 4-21

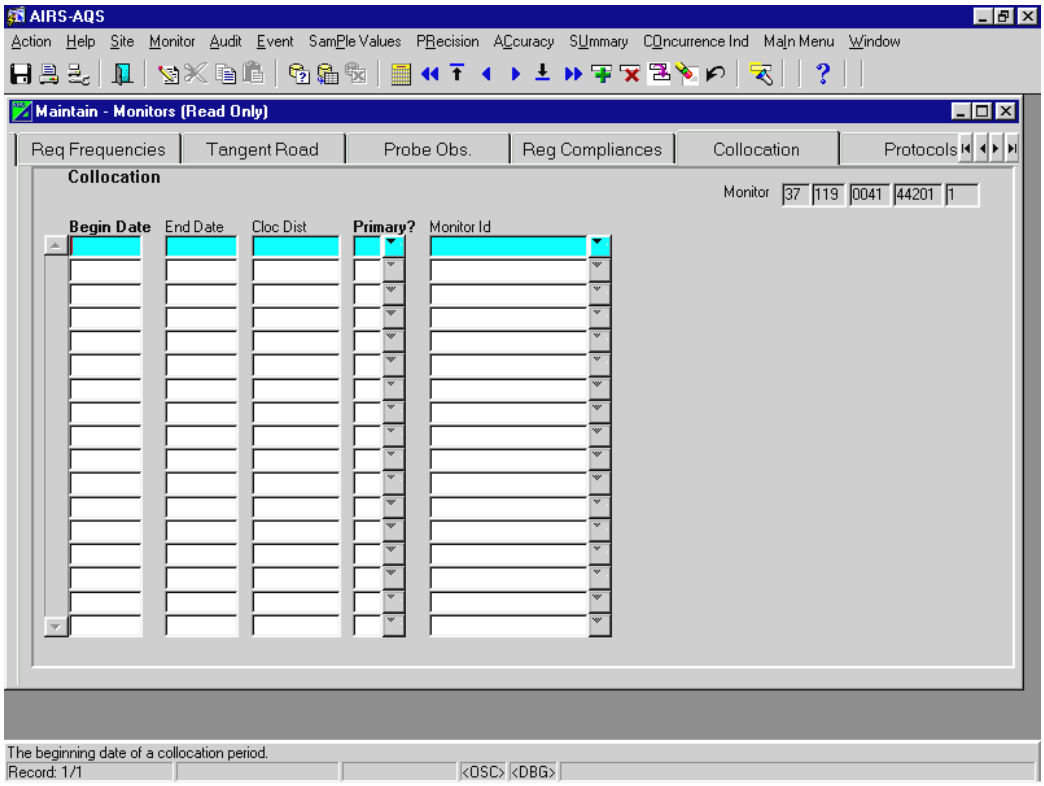


Figure 4-22

You will not need to create a Protocol for your monitor unless you wish to apply an alternate method detectable limitto your data. To create a new protocol set for a monitor, click on the **Protocols** tab, enter the appropriate data for the columns – except the MP Id. The system will assign a Monitor Protocol Id (MP Id). Once the MP Id has been assigned, you may use it to force a different protocol for raw data submitted for that monitor. If you do not include a MP Id in your raw data, the AQS will use the MP Id that has the matching Parameter Code, Method Code, Unit, and Duration Code.

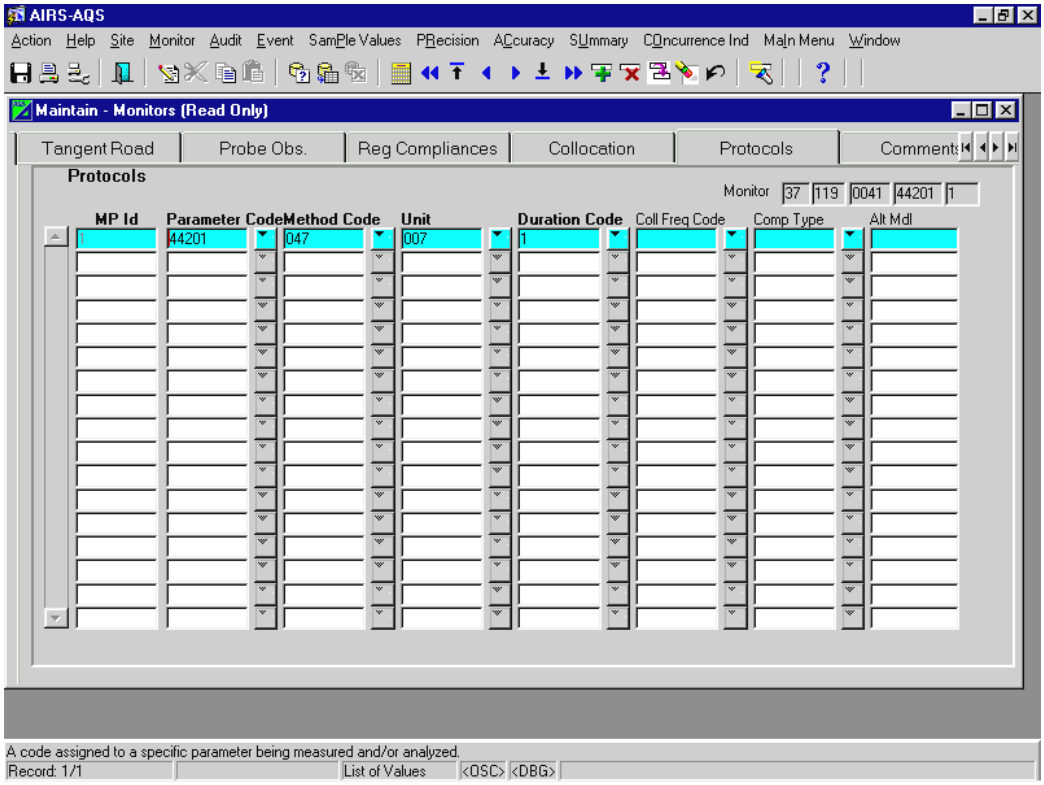


Figure 4-23

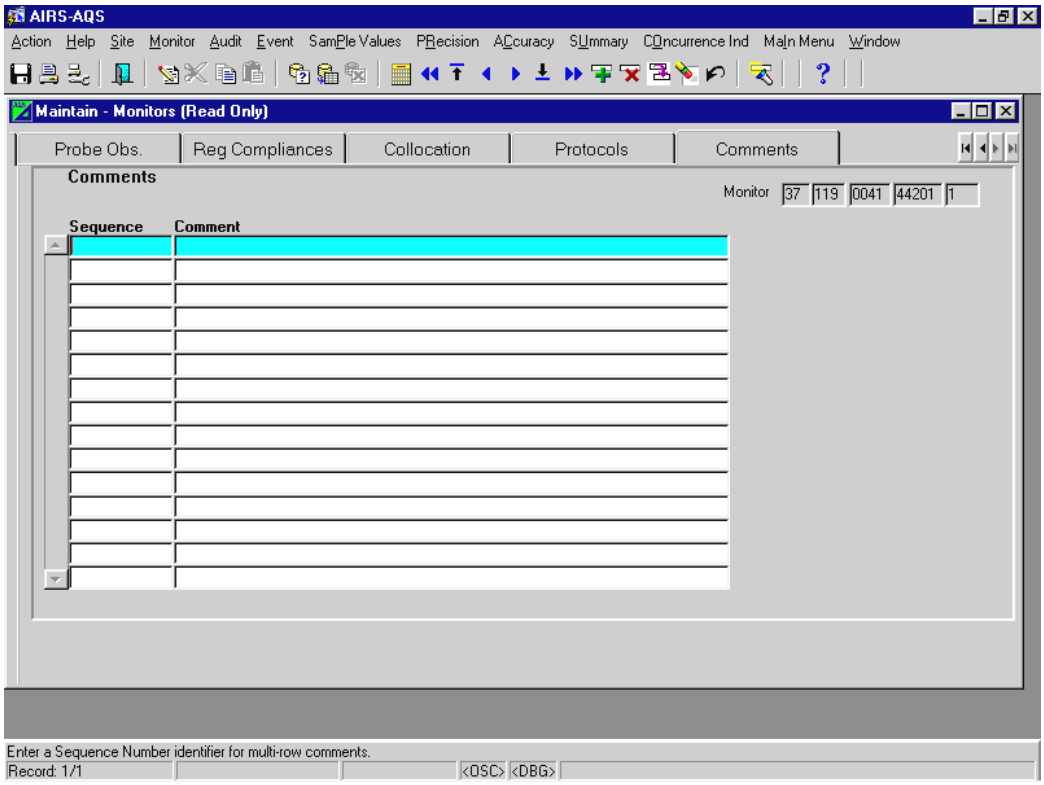


Figure 4-24

When you have completed all fields for all the monitor screens, SAVE your data.

Note: **Until you've entered and saved at least one monitor record, neither your site nor your monitor record is in production status on the database.**

Manual Entry Step 3, optional: Duplicate Monitor

If you have another monitor for the same site, much of the information will be the same. Use the Duplicate Monitor button to speed entry of any remaining monitors at the same site. You are prompted for either a new parameter code or a new POC. If the new monitor is for the same parameter but a different POC, the system can automatically enter much more of the data. You will be prompted for fields that are likely to differ from the original. If the next monitor at the site is for a different parameter, you must complete many more of the monitor fields.

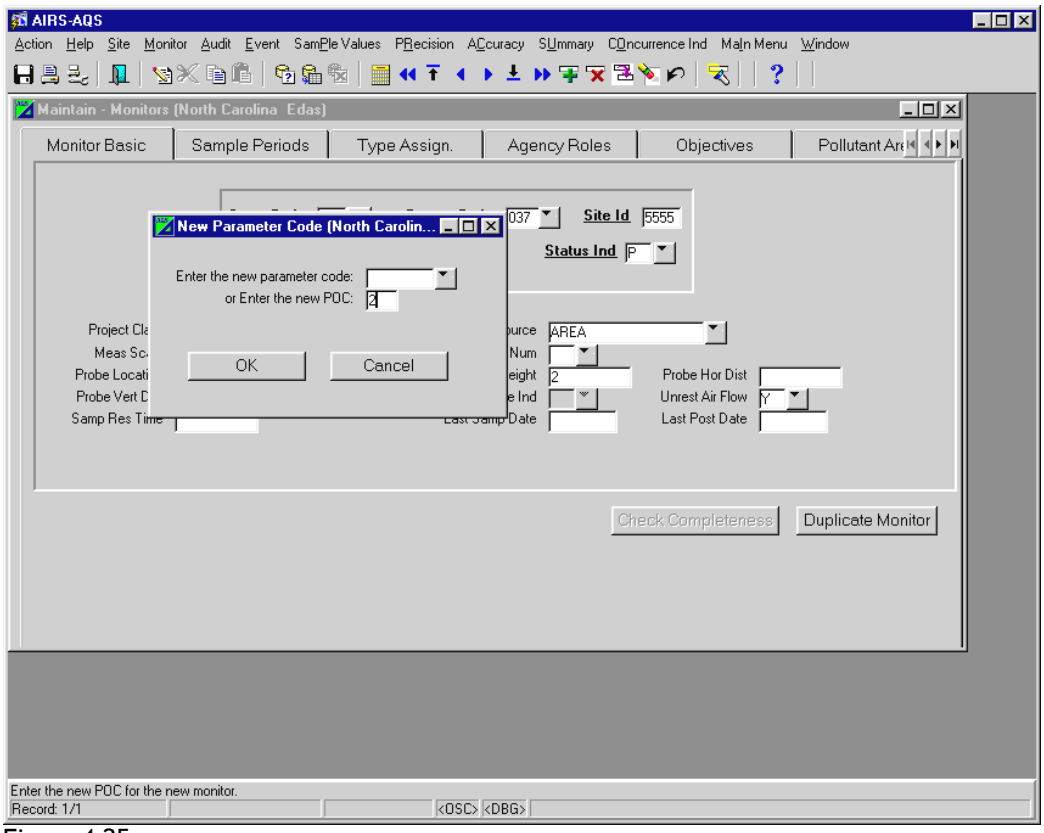


Figure 4-25

4.3 INSERT A NEW SITE AND MONITOR – CREATE FROM AN EXISTING SITE OR MONITOR

If you have a new site with data similar to an existing site (LDP data, Lat/Long, AQCR, dates, etc.), you can use the existing site to help create the new site. Here are the basic steps:

1) Use the **M**aintenance option to query for the existing similar site.
2) With that site visible on your screen, click on the **Insert Record** button (). A blank record should appear.
3) Click on the **Duplicate Record** () button. A copy of the site record last visible should appear. At the bottom of the screen, you should see a message:


.
4) Make the changes needed to differentiate your new site from the existing one on the **Required** and **Optional** tabs of the **Basic Site** tab.
5) Complete the remaining site tabs as needed. You must at least provide a Supporting Agency on the **Agency Roles** tab.
6) Click on **Create Monitor** and insert the new monitor information as in Method 1.
7) **Save** your work.

Use the same general process to insert a new monitor based on data for an existing monitor.

4.4 MODIFY AN EXISTING SITE OR MONITOR

Modifying an existing site or monitor is an easy process. The tricky part is knowing which fields can be safely changed without affecting other data in the database, including monitor and raw data.

Online Maintenance is the only way to delete a field value for sites and monitors. Batch updates can only update the value of field. There's no way to indicate you wish to delete a particular field.

Use the Maintenance Option to query for the site or monitor to be modified.

Hint: Main Menu, Maintenance, Site, Enter Query, provide your state/county/site, Execute Query.

Navigate to the field to be changed and change the value. Save your change(s).

Be sure to make any related changes. For example, if you change the site Land Use Type to "Forest", does a Loc Setting of "Suburban" seem reasonable? The application can detect only basic errors, such as entering a value for a field with a LOV button that is not included in the list of values. (If a new value needs to be added to a LOV, contact EPA to request the addition.) It will also warn you about Lat/Long values not within the county for your site and the use of dates in the future.

4.5 INSERTING A RAW DATA VALUE

Most raw data comes in an electronic form from a data logger. Occasionally, you may need to add a few values manually. You can do this with the Maintenance option, followed by the batch jobs to run the Stats/CR and Post functions.

From the Main Menu, click on Maintenance, then Sample Values, Raw Data.

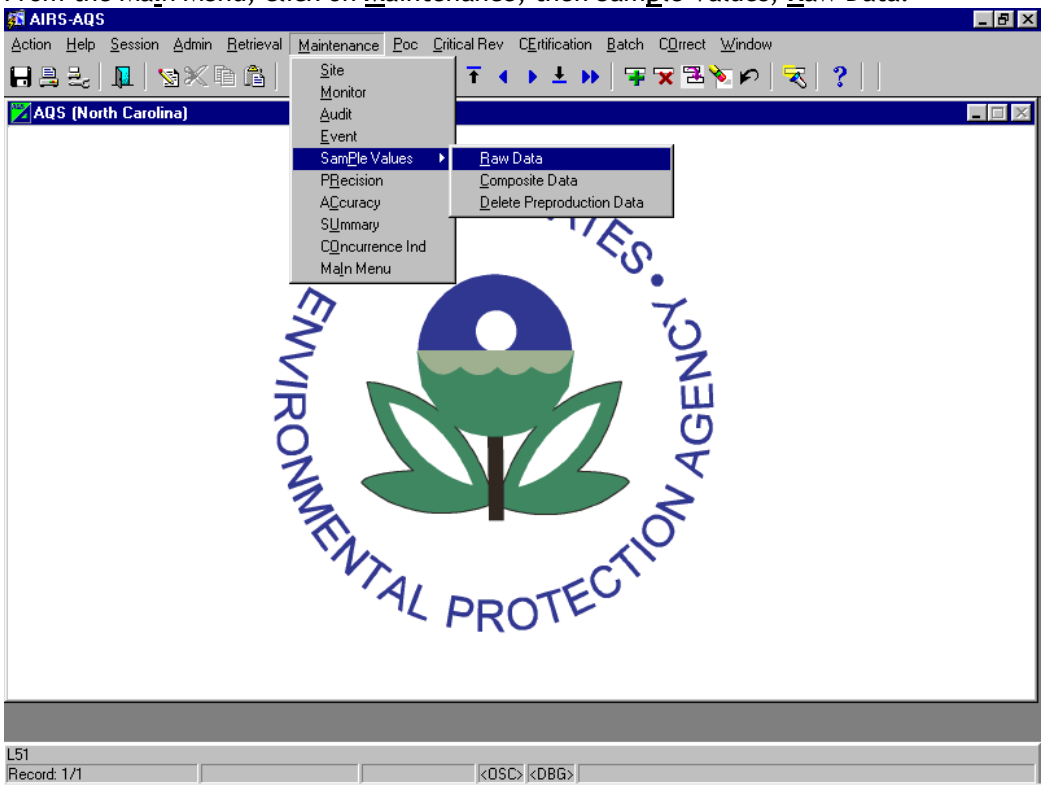


Figure 4-26

Click on **Enter Query**; enter the identifying monitor information and click on **Execute Query**.

Click on the **Raw Data** tab to see the sample values for this monitor.

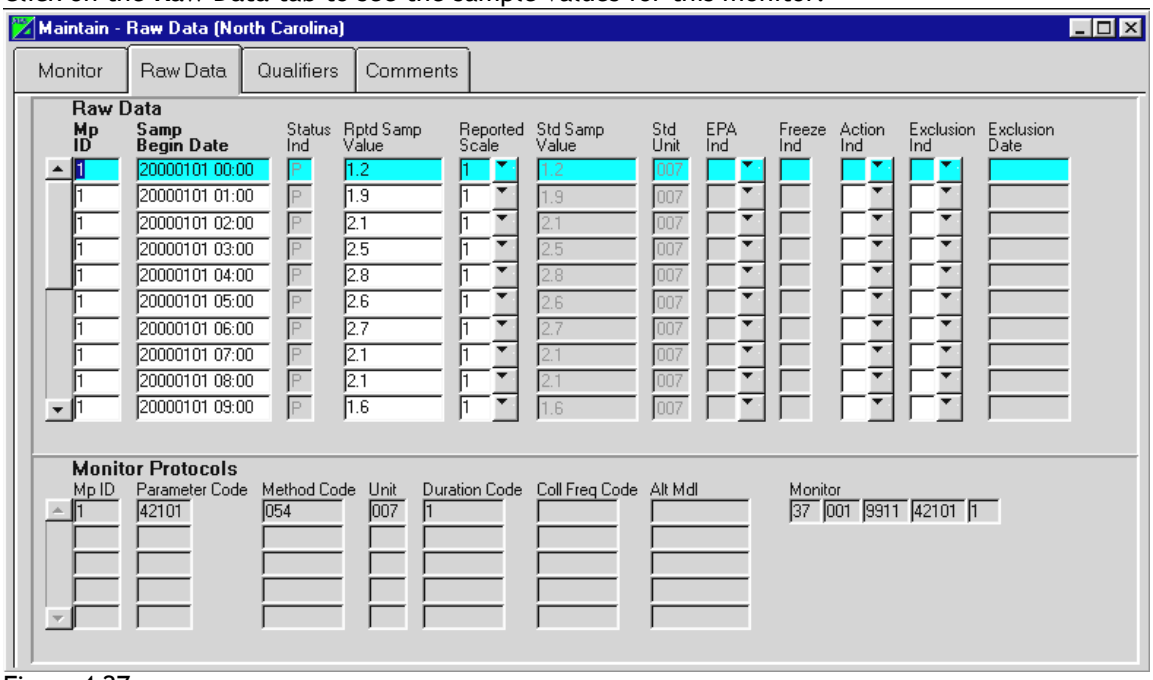


Figure 4-27

Click on the **Insert Record** button () to get an empty row for your new record and begin entering your new record. (Use the tab key to move from field to field.)

The value you use for Mp ID must already exist in the database as a valid protocol ID for the monitor parameter. If raw data already exists for the monitor, the currently valid Monitor protocol records are displayed in the bottom section of the screen. The Mp ID is only used as a way to refer to a particular combination of parameter, method code, unit, duration, collection frequency and alternate minimum detectible level. Multiple protocols are needed only when Alternate Method Detectable Limits (Alt Mdl) are to be used in processing.

Notice that you are not allowed to enter values for all fields. The "Status Ind", "Std Samp Value", and "Std Unit" will be completed by the application. Insertion of other fields (e.g., EPA Ind and Freeze Ind) is restricted to authorized personnel.

After you have inserted all the new records, you will need to process them through the Stats/CR and Post processes. Refer to the section on Batch Load processing for instructions on completing these steps (beginning with Running the Stats CR job 3.8).

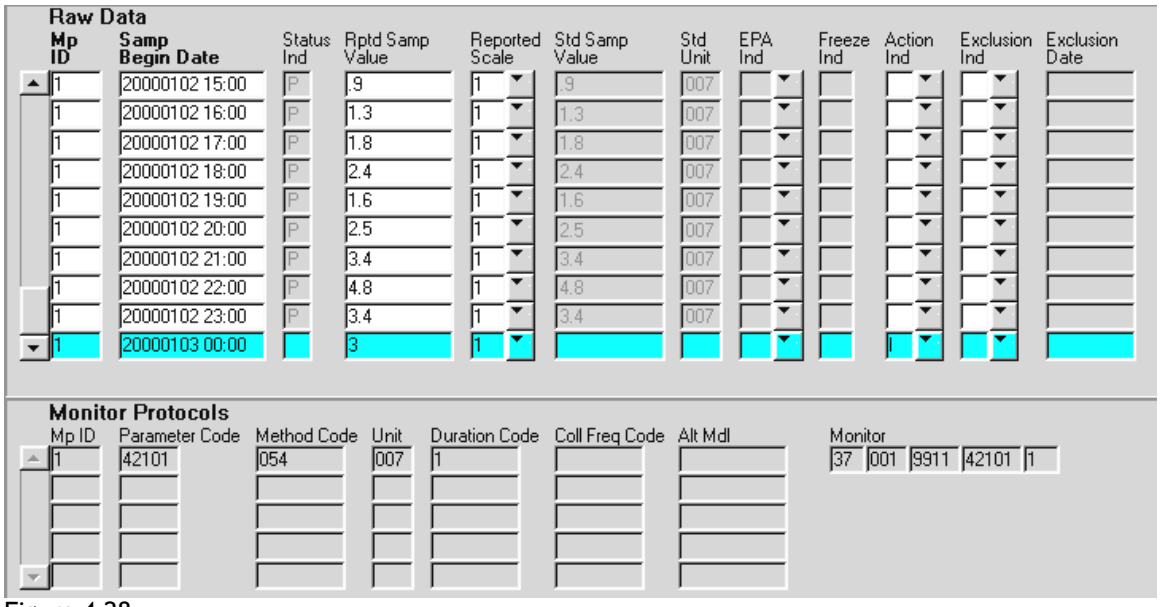


Figure 4-28

4.6 CHANGING A SAMPLE VALUE

The steps to changing an existing sample value are very similar to those for adding a new value. Begin by executing a raw data query for the monitor (Main Menu, **M**aintenance, Sam**p**le Values, **R**aw Data, **Enter Query**, provide monitor id info, **Execute Query**.)

Click on the **Raw Data** tab to see the existing sample values. If there are lots of sample values for your monitor, you can query within the **Raw Data** tab to reduce the number of records you have to scroll through to find the record you wish to change. Do this by clicking on the **Enter Query** button (the monitor id information will remain on your screen). Enter as much of the information you have to restrict the query. For example, if you know the sample value was for January 2, 2000, you could enter **20000102%** and then **Execute Query**. The "%" is the wild card. The system will find all sample values for the monitor with a sample date beginning with 20000102. Realize that the "%" is not time sensitive, so if you enter **20000102 01:%**. You will not retrieve all values for January 2, 2000 beginning at 1am. Instead, you will only see the value for 1am (providing there are no sub-hourly values posted!) Of course, you aren't limited to using dates for querying. Use whatever part of the sample value record you know to help restrict the number of records retrieved.

Once you find the record for the sample value you wish to change, take these steps:

1. Click on **Insert Record** to provide an empty row,
2. Click on **Duplicate Record**
3. Change the reported sample value to the correct value
4. Enter the scale for the new reported sample value
5. Enter an Action Indicator of "U"

See the sample screen below. Notice that the Status Indicator is set to "R" by the application. This "R" status should remind you that you need to run the Batch jobs to do the statistical and critical review checks and then, assuming the data is ok, post that data to production. These are same steps you went through when adding a new sample value.

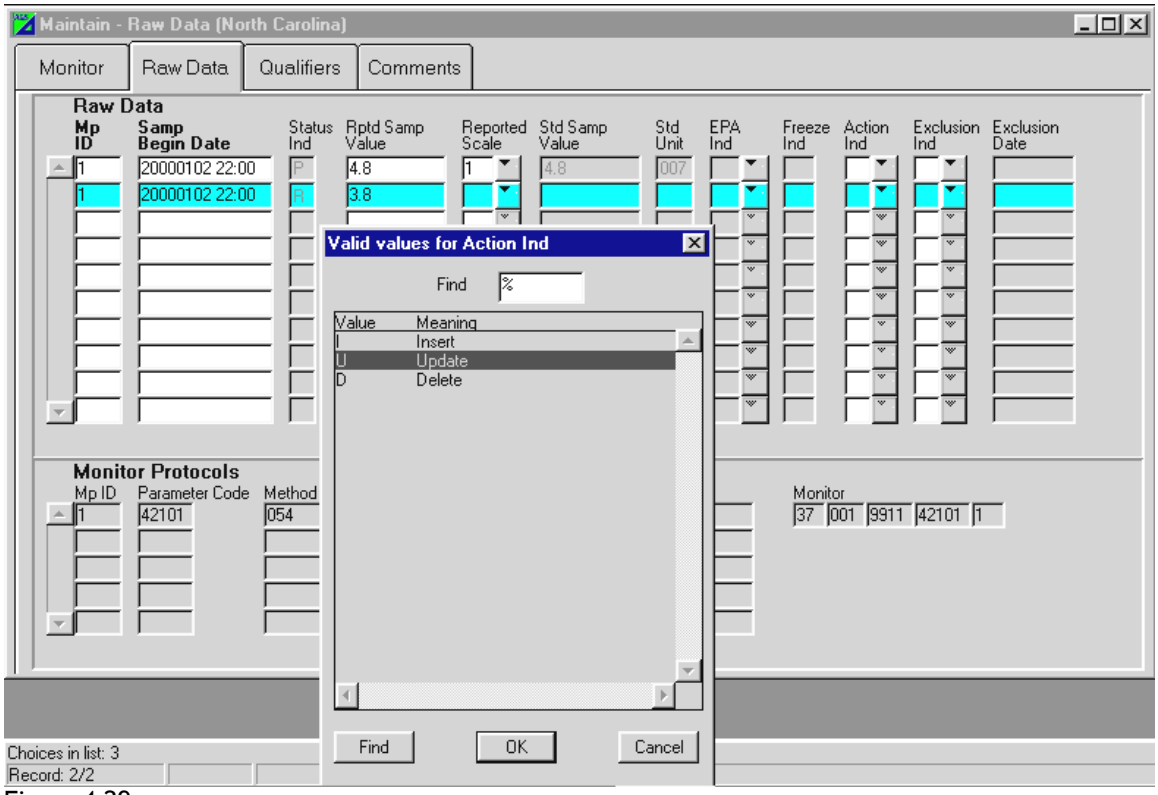


Figure 4-29

4.7 DELETING RAW DATA RECORDS

There are some basic rules to understand before attempting to delete any records in production status.

- Has the record been certified? A Critical Review record will be created if the data has already been certified. If you continue with posting the data, the certification indicator is removed.
- When you're deleting sample values (or composite values) in **production status**, you must **create a transaction** record for every record you wish to delete and use the **Batch** Option to process them (as described in the previous sections.) If there are a lot of them, you will want to let the system create a work file from a standard report called **Extract Raw Data** (AMP 501) found under Main Menu, Retrieval.

If the record is a sample value or composite value record in **pre**-production status, you may delete it by simply highlighting the record, clicking on the **Delete** button, and saving your changes.

If the record in is production status, the mechanics of deleting data are much like those for changing data:

1. Run a raw data query to find the record to be deleted,
2. Insert a record after it,
3. Duplicate the existing record you're your new record, and
4. Change the Action Indicator to "D – delete" instead of "U – update". From that point on, follow the same steps, i.e., run Stats CR and Post (reviewing the appropriate reports and making any needed changes, of course!)

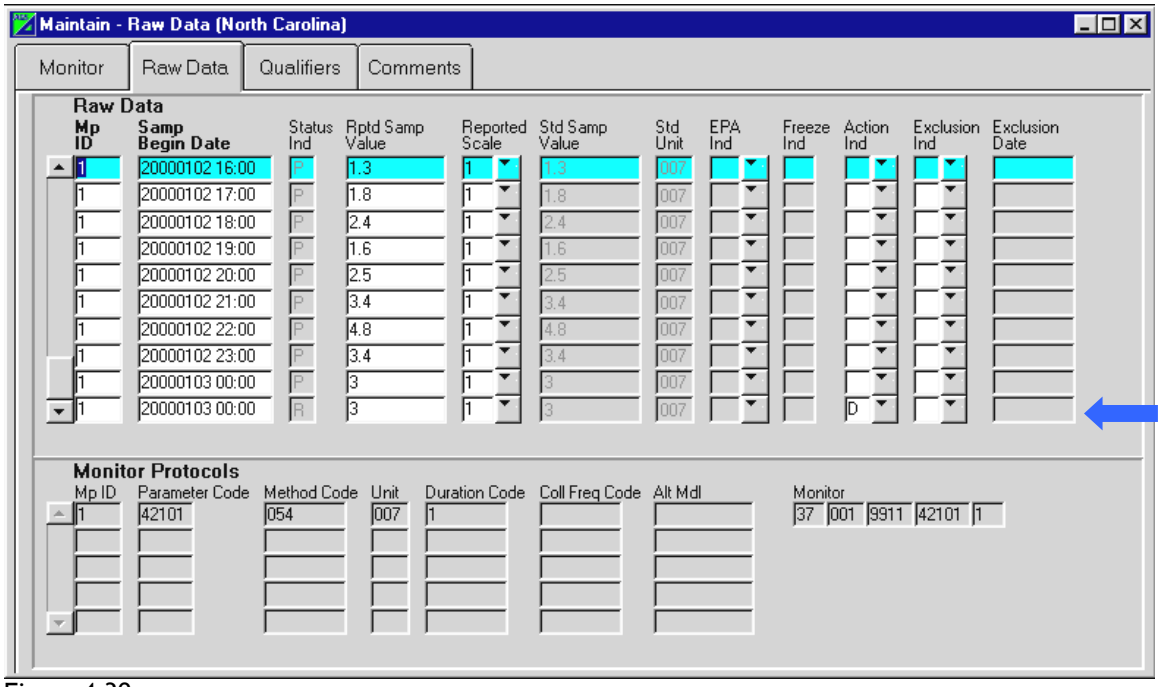


Figure 4-30

4.8 DELETING A SITE OR MONITOR

Rule 1: All data for a monitor must be deleted before the monitor can be deleted.

Rule 2: When all sample values for all monitors have been deleted, the last monitor may not be deleted unless the site is deleted.

Query to find the monitor or monitors to be deleted. If there are no sample values for the monitor, click on the Remove Record icon ( ). If that monitor is not the last monitor at the site, the monitor record (including all it's parts) is deleted when you then click on the Save icon. The record is not deleted until you have saved your change (i.e., saved your deletion).

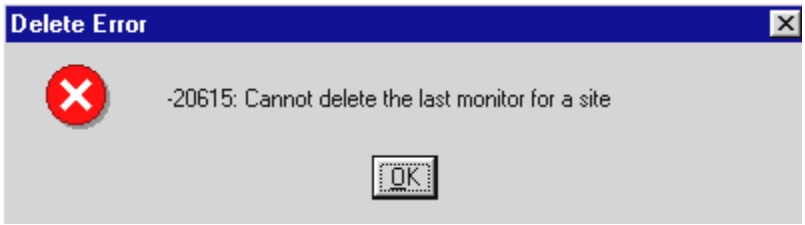


Figure 4-31

The only way to delete the last monitor at a site is to delete the site. The application will delete the site and it's monitor(s), as long as there are no existing sample values for any of the monitors.

To delete a site, go to Maintenance, Site, query for the site, and while it is visible, click on the delete button. Save your change.

Go back and re-query on the site and the monitors to verify that the records are indeed gone.

4.9 ROLLBACK A RECORD

The Rollback button () is available to rollback (i.e., cancel) any insert/update/delete records you enter and **have not yet saved**. It's important to realize that once you save your changes, there is nothing to "rollback".

If you make changes but don't save or rollback, you are prompted to decide whether or not to save your changes.

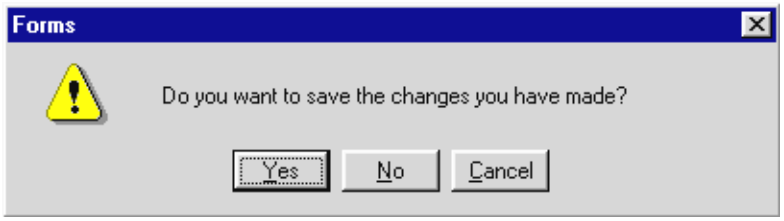


Figure 4-32

4.10 BROWSING DATA

Browse is accomplished via the Maintenance option. Select the type of data you're interested in and enter a query for it. The key point to remember when browsing data is to provide as much information as you can in the query, especially when browsing raw data.

When you first enter the Maintenance option for any type of record, you are in Insert mode. Click on the Enter Query button to switch to query mode. Many of the fields used in a record may be used in a query.

❖*Site/Monitor Browsing*:

Browse works the same for site and monitor data. Examples using site data are shown below.

Example 1: Browse all sites in a county.

Enter the State code, County code

Execute Query.

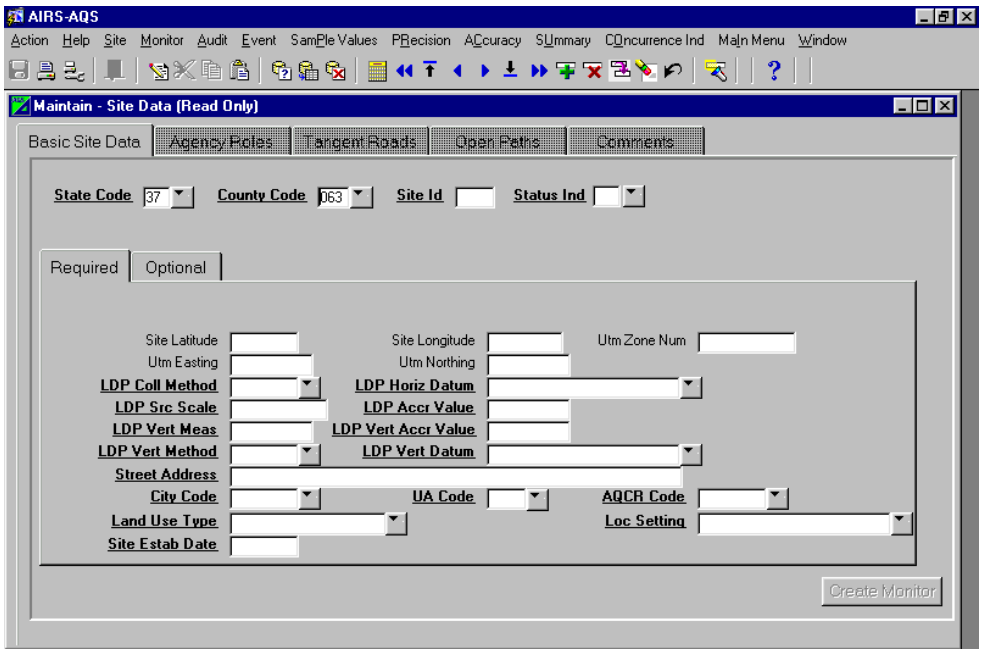


Figure 4-33

Resulting Query shows the 1st site in the selected state/county. Scroll through the remaining sites within the state/county, with the Next Record button.
Jump to the last site within the state/county by using the Last Record button. Once a site is found, the other site tabs (Agency Roles, Tangent Roads, etc.) are available.

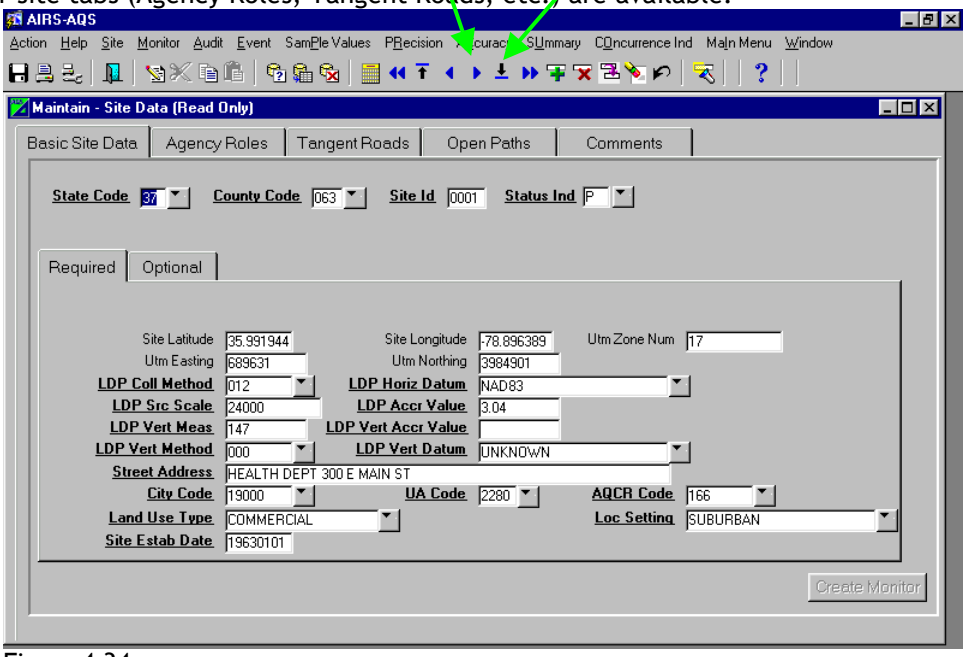


Figure 4-34

Example 2: Browse a specific site. Enter the State code, County Code, and Site Id. Execute query.

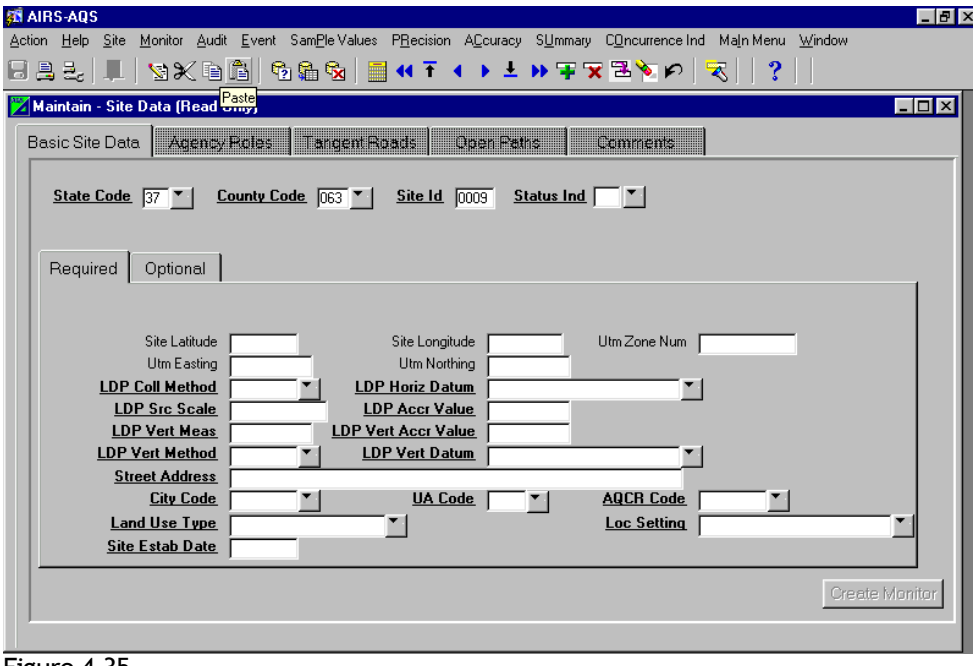


Figure 4-35

The resulting screen shows the selected site. The Next Record and Last Record buttons do not scroll to another site.

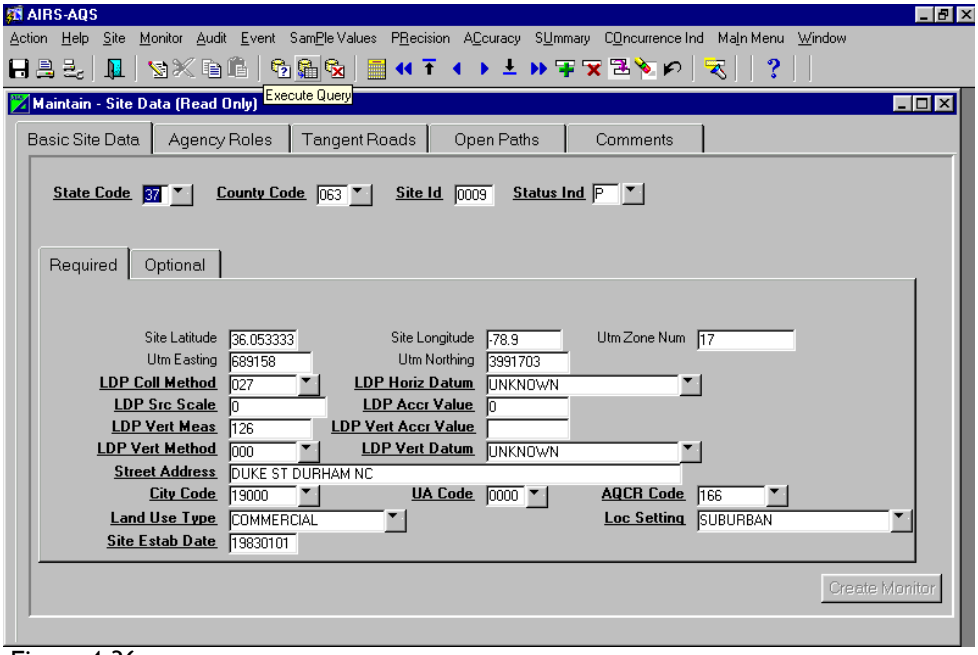


Figure 4-36

❖*Sample Value Data Browsing*:

Browsing sample values is similar to browsing site and monitor data, in that the first step is to click on Enter Query and provide the identifying information. You can enter some or all of the fields in the top section of the screen to identify the monitor.
Enter state code, county code, site id, parameter code, and POC – or as much information as you have, recognizing that a more narrow search should respond more quickly.

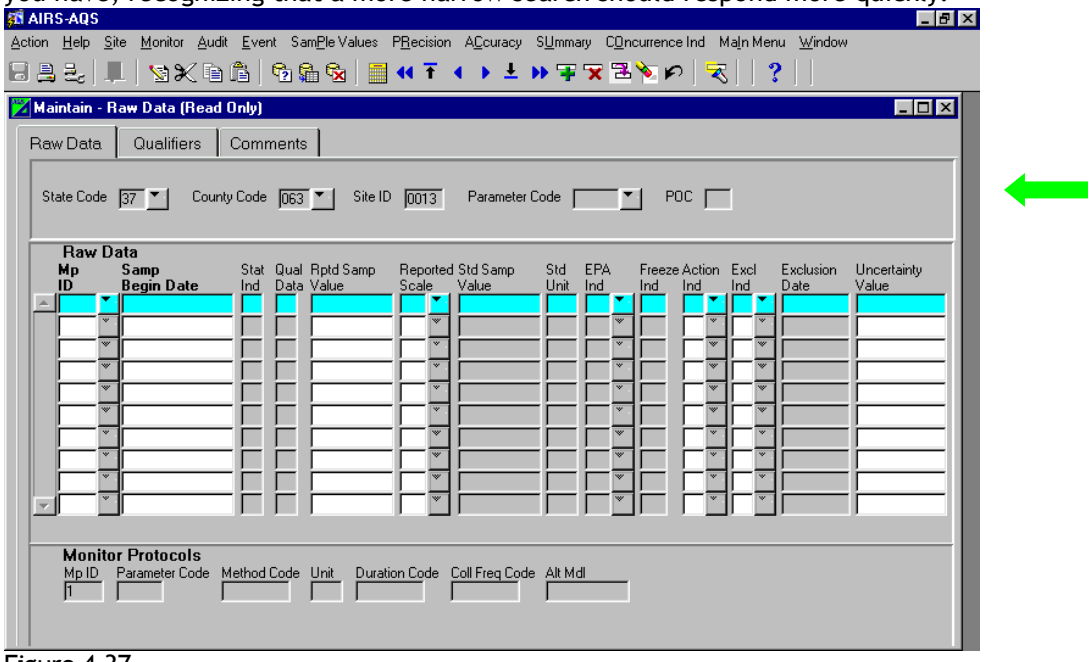


Figure 4-37

Query results show data for the 1st parameter and POC at that site and start with the earliest sample date.

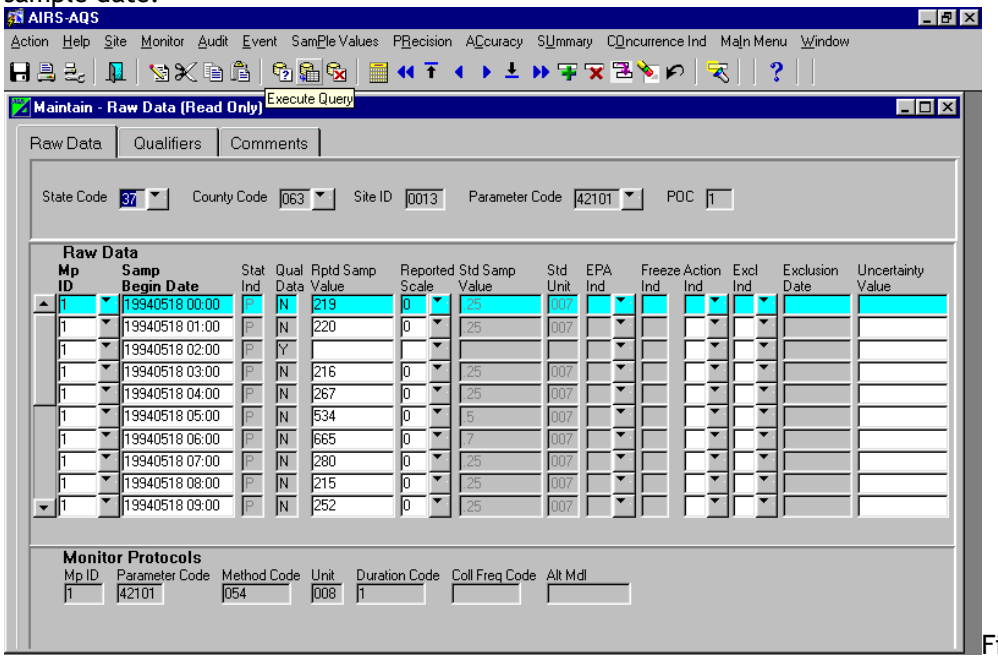


Figure 4-38

To skip to a particular date, click in the "Samp Begin Date" field, click on Enter Query while your cursor is in that field, enter the date of interest, and Execute Query. To start at a particular date and move forward, enter only enough of the date to indicate the beginning date.

For example, to see data for May 2001, enter "200105%" (without quotes). Be careful entering dates with the "%". "20010501%" will yield records that match on May 1, 2001 and will show all records for all times on that day only, not that day and forward. To browse all data for the year 2001, enter just "2001%".

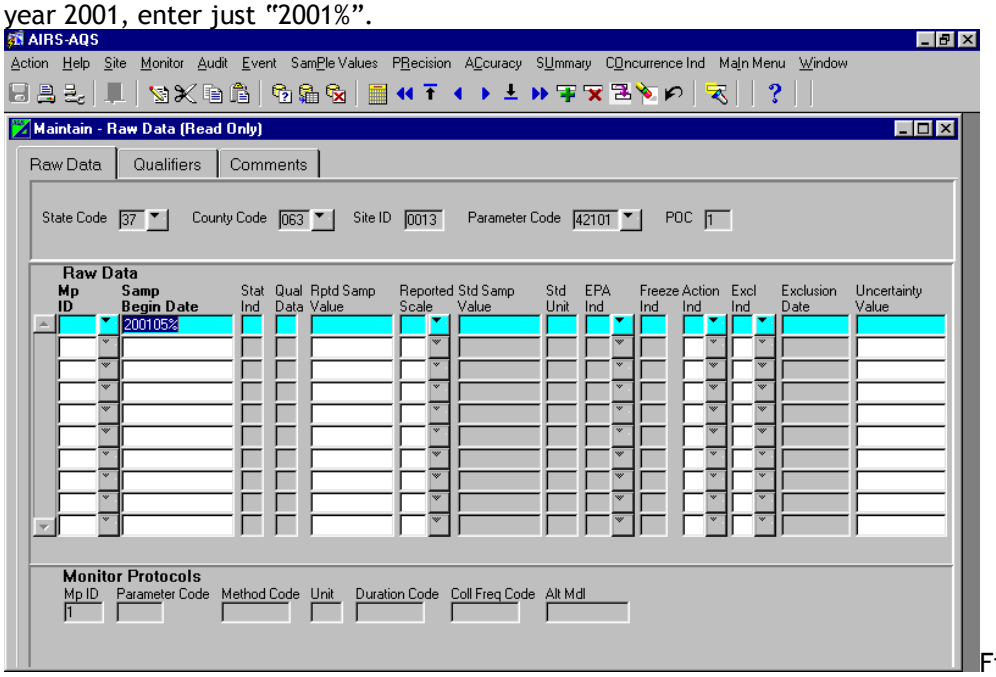


Figure 4-39

Execute the query to see the raw data.

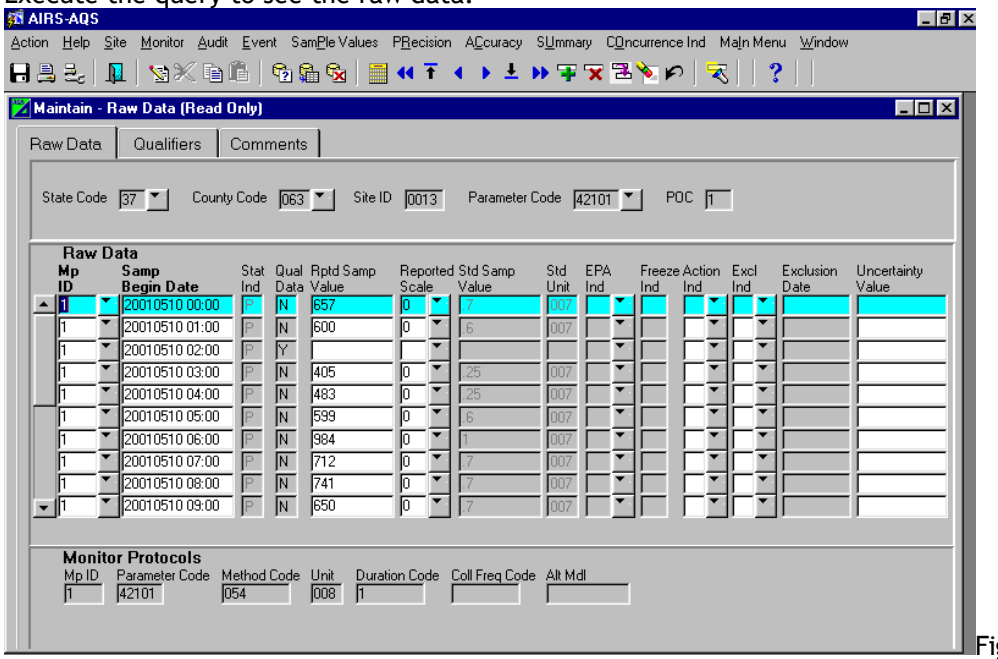


Figure 4-40

Chapter 5 – Data Retrieval

5.1 RETRIEVAL MENU

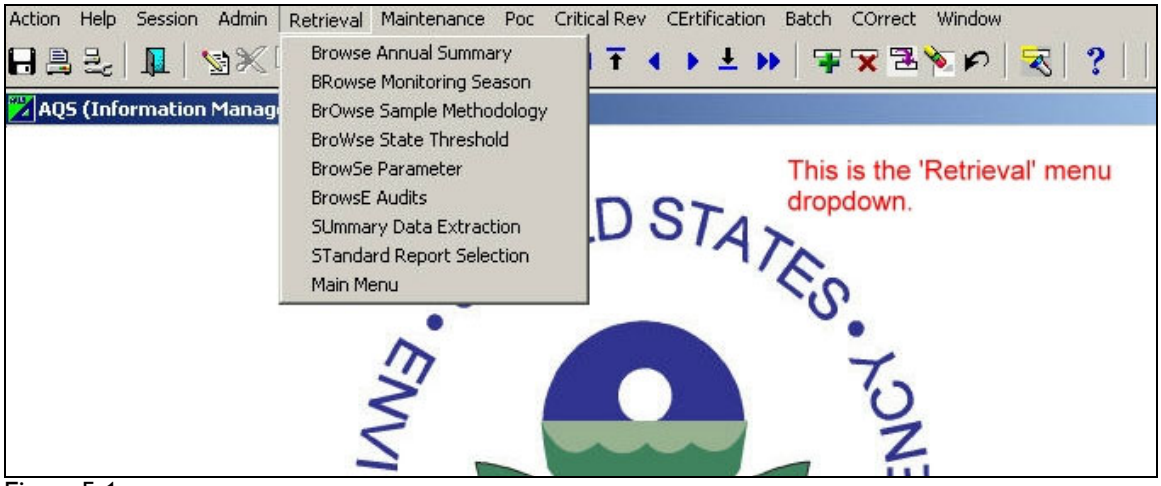


Figure 5-1

The Retrieval dropdown from the Main AQS Menu is shown in Figure 5.1. From here we can access many of the browse query options or select one of the formatted reports in AQS. There are 6 different browse options on the Retrieval dropdown. Although all show different information, they are accessed in the same way. Here we will show how to use the Browse Monitoring Seasons option. Begin by clicking 'Browse Monitoring Season' on the Retrieval dropdown.

Figure 5.2 shows the Browse Monitoring Seasons screen.

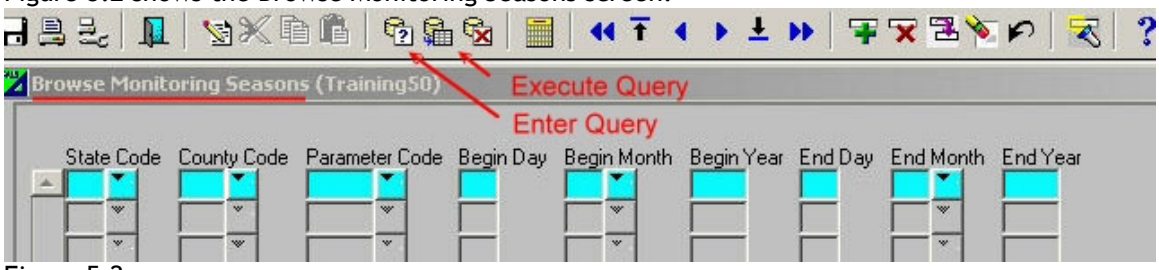


Figure 5-2

To query information in one of the Browse options:

1. Click the 'Enter Query' button (see Fig 5.2)
2. Insert query information such as State Code, County Code etc…
3. Click the Execute Query button.

5.2 AQS STANDARD REPORTS

Standard reports are reports that have a pre-set format but which can be altered by providing different criteria information. Criteria information is details such as geographical, pollutant, and date range specifications used to create the reports. These reports provide various site, monitor or raw data type information.

If you used the old AQS, you may recognize many of these pre-formatted reports as the 'AMPXXX' reports.

A sample of many of the reports, as well as the fields required to produce the report, is included in Appendix F.

How do I create a report in AQS – the short version:

- From the Main Menu, click Retrieval, Standard Reports Selection Criteria.
- Provide Report Code on Criteria Set tab.
- Provide selection criteria on the Selections tab
- If applicable, complete the Sort Order, Report Options, and Raw Data Options tabs.
- On the Generate Report tab determine if the report is to run Online or Batch.
- Click Generate Report button on the Generate Report tab.
- When Previewer appears, press the PageDown key.

5.3 USING THE STANDARD REPORT SELECTION

This area is accessed from the Main AQS menu by selecting Retrieval, Standard Report Selection. This will take us to the Criteria Set tab (Figure 5.3) screen where we can begin to create formatted reports.
Generating a report is a matter of providing the necessary information on the Criteria Set tab, followed by the Selections tab screen etc until the Generate Report screen where the report is generated. Only the Criteria Set, Selections and Generate Report tabs are required to create a report.

Criteria Set tab

Figure 5-3

For our purposes, this screen can be broken into 5 areas (we do not need to use the top most line which begins with 'Action'):

The very top icon bar (1) is the standard Oracle icon display. The icons in the red boxes are the only ones that are used for Reports.

The next area (2) is the report criteria tabs. These tabs are used to help AQS determine what information to include on the report. These tabs will be covered individually.

The purpose of area (3) is to save the criteria used to create the report, or to retrieve a criteria set that was saved previously.

The Report Code drop-down (4) is used to select which report you want to generate.

Finally, the Clear All button (5) is used to clear any information entered in the boxes, Delete or Duplicate a Criteria Set.

The 'Report Code' area of the Criteria Set screen is used to specify which of the pre-formatted reports you want to produce. This is one of the few required fields on the report tabs and the only required field on this screen.

Use the drop-down triangle to display a list of all available reports. The Report Name will display the name of the report that is selected.

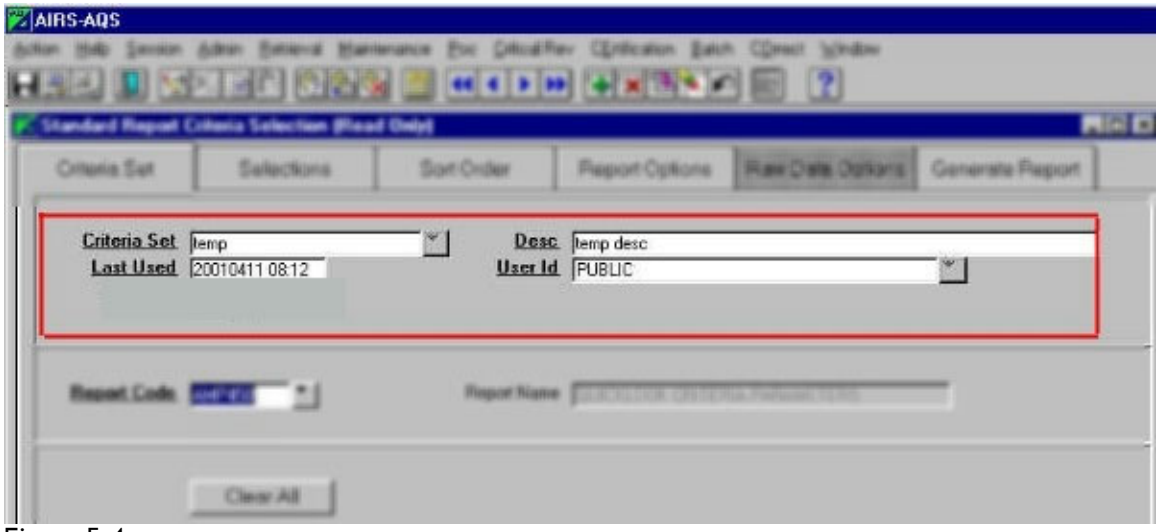


Figure 5-4

This is a section of the Criteria Set tab screen used to save and retrieve criteria set information.

If the report you are creating is to be used one time only, there is no need to complete the information in this area. If however, you want to use this report in the future, you can save the criteria used to generate the report. Saving the Criteria Set saves all the information entered on the tabs (Criteria Set, Selections…) so the next time you want to use this criteria to create a report you can retrieve the criteria set as opposed to typing the information in again. Anyone within your screening group has access to your saved Criteria Sets. Your can however, transfer a Criteria Set to a user in another screening group.

How to save, retrieve and transfer a Criteria Set is specified below.

Do **not** save the Criteria Set until you have entered all the information on all of the tabs and you are ready to generate the report. The last thing you should do, prior to generating the report, is to save the criteria set information

The Last Used date is the date the criteria set was last used.

The User Id will display the User Id of the person who created the Criteria Set.

Figure 5-5

To save a Criteria Set:

Enter a unique name in the 'Criteria Set' field
Enter a description in the 'Desc' field.
When you are ready to generate the report, click on the diskette icon at the top left to save the criteria set.

To retrieve a previously created Criteria Set:

Click on the Enter Query icon on the top toolbar. (Figure 5-5)
Click on Criteria Set drop-down.
Select Criteria Set to be retrieved.
Click 'Ok'.

To delete a Criteria Set:

Retrieve the Criteria Set as described above.
Click the Delete Criteria Set button.
Click 'Yes' to 'Do you want to save the changes you have made' prompt.

To transfer a Criteria Set to a user outside your screening group:

Retrieve the Criteria Set that is to be transferred (described above).
Click the Duplicate Criteria Set button. (Figure 5.5)
In the 'Enter New Criteria Set' box provide a name, description and select the user id of the person to whom you want to transfer the Criteria Set to.
Click 'Ok'.
The Criteria Set will then be accessible by the other user.

Selections tab

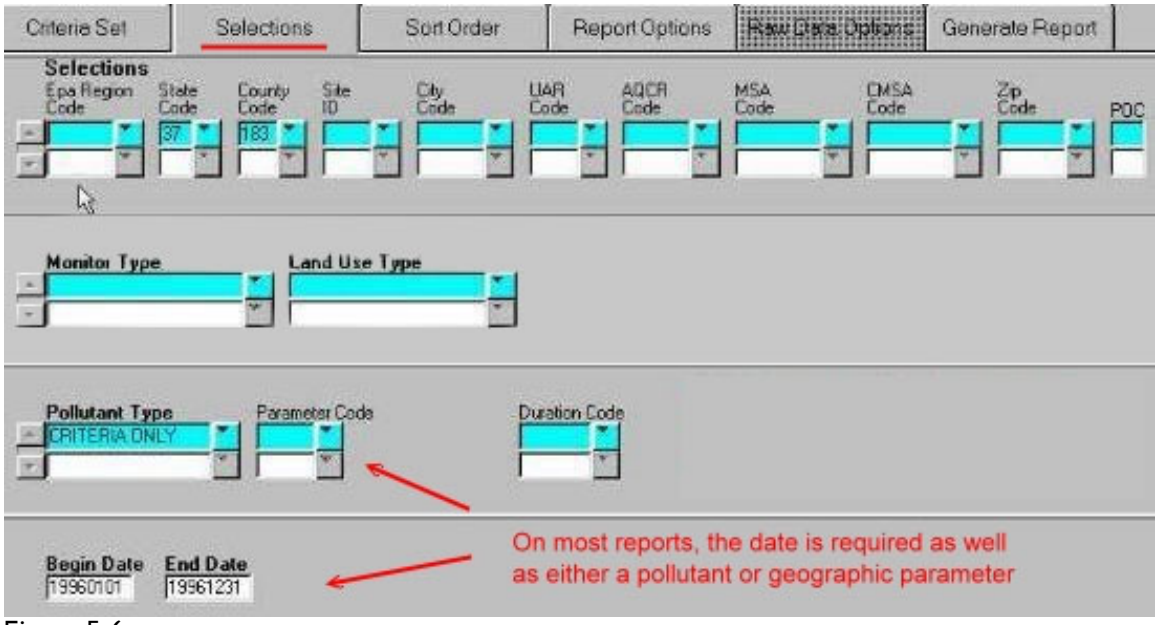


Figure 5-6

- After the Criteria Set tab information has been completed, the Selections tab is used to narrow the information contained on the report to specific geographic, pollutant and time period information. This screen is accessed by clicking on the 'Selections' tab.
- The drop-down menu can be used to enter information, or it can be typed directly into the aqua colored areas. If more than one entry is to be made, use the down arrow on your keyboard to get to the next line.
- After an entry is made, use the Tab key to advance to the next field. When all entries have been made, click on the Sort Order, Report Options, Raw Data Options or Generate Report tab to enter more information.
- Although few fields on this screen are required, the more information that you provide, the more exact the report will be. When creating reports it is important to limit the criteria as much as possible, especially when using raw data. Creating a report of raw data by state and county over several years for example could create a report that was expensive, time consuming and not very useful in most cases.
- In most cases, you must specify a begin/end date as well as either a geographic criteria such as state or a pollutant parameter such as ozone. See Appendix A for details.
- The format of the date fields is: yyyymmdd.
- The fields contained on the Selection tab will differ depending on the report selected.
- To delete a row of selection criteria, use the Remove Record icon (Fig 5.5) to delete the highlighted row.

Sort Order tab

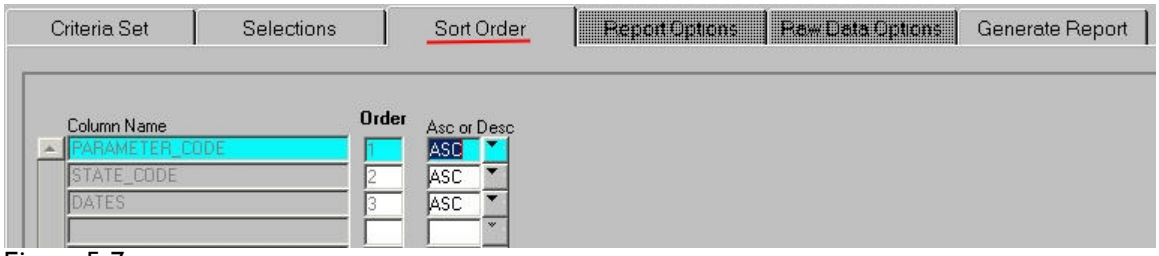


Figure 5-7

- In many cases, the Sort Order tab does not have to be used.
- The ascending/descending order can be changed for any of the fields listed on this page.
- The Order cannot be changed.

Report Option tab

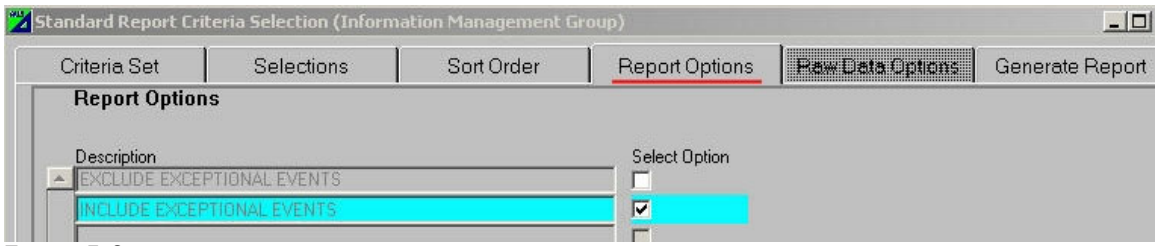


Figure 5-8

The information on the Report Options tab will differ from report to report. In many cases it may not be necessary to provide any information on this screen.
This tab is used to specify the report options. For most reports, this means specifying whether to include or exclude exceptional events.
What are exceptional events?
An exceptional event is something that happens in the environment that causes an abnormal monitor reading. Some examples would be earthquakes, tornados, volcanic eruptions, etc.

Excluding exceptional events mean that if one of these events was occurring when this data was created, this information would not be included in the report.

If you are running a Data Completeness report, the Number of Samples Expected must be provided. This is normally 15 for a quarter or 60 for an entire year.

Raw Data Options tab

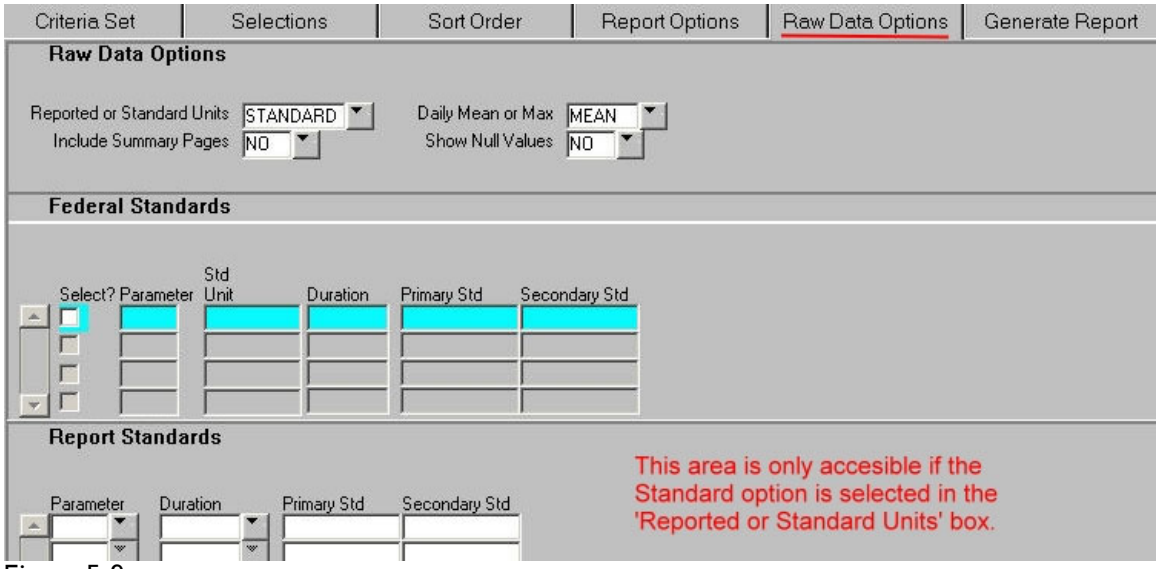


Figure 5-9

- This screen is only used when producing one of the Raw Data reports. Although this information is not required, it may help in producing a more customized report.
- The federal standards are standards for a given pollutant that have been specified at the federal level. Reported standards are the standard that was used by the state or local agency when collecting and reporting the data.
- If Show Null Values is set to 'No', blanks will be displayed if there is not a value.
- Under Federal Standards, the Duration code is included. A list of these codes is displayed below in Figure 5.10

Duration Codes

Duration Code	Duration Desc
1	1 HOUR
2	2 HOUR
3	4 HOUR
4	6 HOUR
5	8 HOUR
6	12 HOUR
7	24 HOURS
8	1 MONTH
9	3 MONTHS
A	1 WEEK
B	3 HOURS
C	COMPOSITE DATA
D	YEARLY
G	ANNUAL GEOMETRIC MEAN
H	5 MINUTES
M	ANNUAL ARITHMETIC MEAN
Q	QUARTERLY ARITHMETIC MEAN
W	8-HR RUN AVG BEGIN HOUR
X	24-HR BLK AVG
Y	3-HR BLK AVG
Z	8-HR RUN AVG END HOUR

Figure 5-10

Generate Report tab

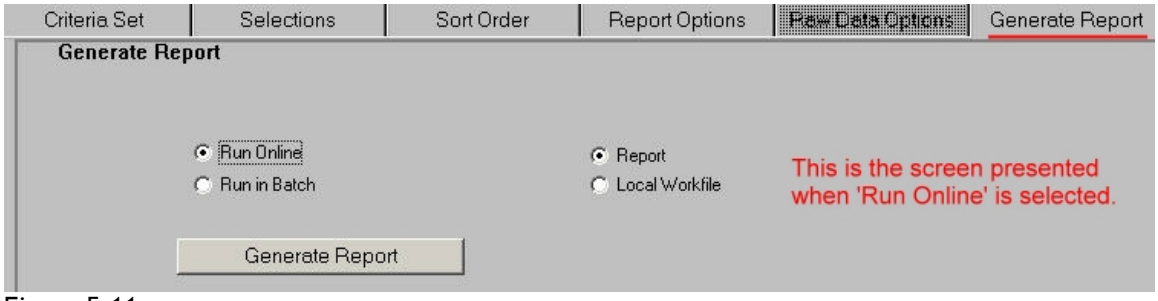


Figure 5-11

The Generate Report tab is the final step in the report creation process. Here you can specify whether to run the report in batch or online mode. Running a report Online means the report is run on the client, whereas running a report in Batch means it is run on the server. You can also specify whether output is to be a printed report or a work file that can then be imported into another application.

Batch reports should be used for large reports. Reports such as the Raw Data Report should most likely be run in batch mode where possible. It's important to understand that once you start a Batch report there is no way to stop it, so make sure your criteria are correct.

Online reports (Figure 5—11) are reports that are generated immediately. Reports that use summary data such as the Maximum Values Report can be run online.

The Local Workfile can only be selected when the Run Online option is set. Only a few reports such as the Quick Look can use this option.

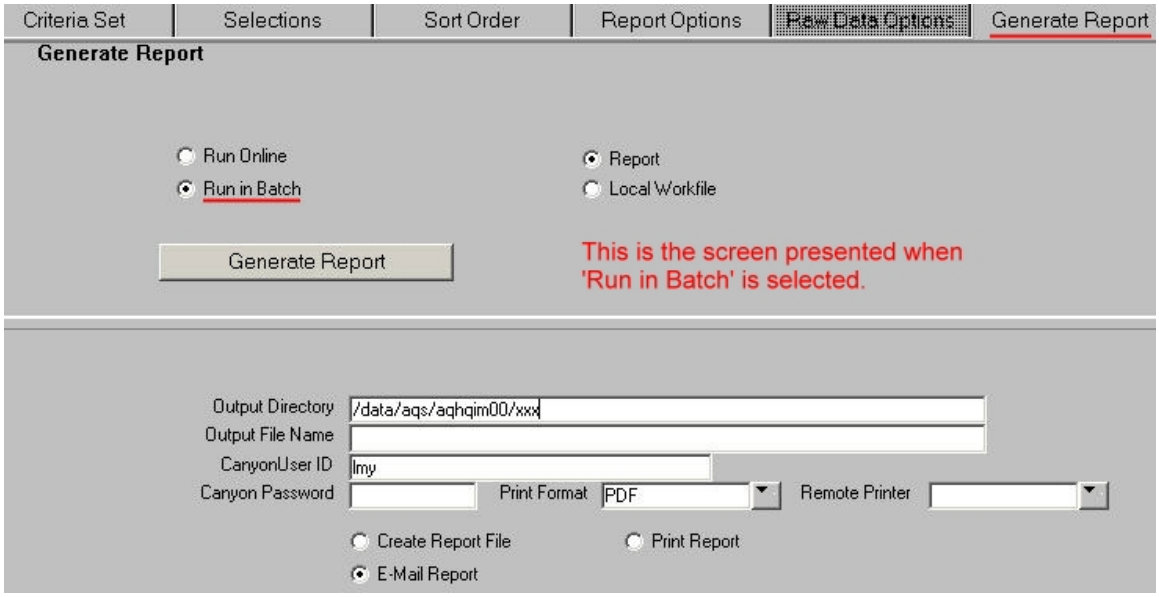


Figure 5-12

Figure 5-12 shows the screen that appears when the Run in Batch button is selected.
The Output Directory and Canyon User Id should be already completed.
You must provide the Output File Name.

The Print Format options are:

1. PDF (Adobe Acrobat)
2. RTF (Rich Text Format)
3. HTML (Hyper Text Markup Language)
4. PS (Postscript)
5. HPL (HP Printer Language).

The E-mail Report option is pre-selected. When the report is completed it will be emailed to you.
In the future, the Remote Printer option will print a report at one of the EPA remote sites.
If the default format of PDF is used, the e-mail will contain the PDF file. This information must be copied to another file, and saved with a pdf extension on the file name, prior to being viewed by an Adobe Acrobat Reader.

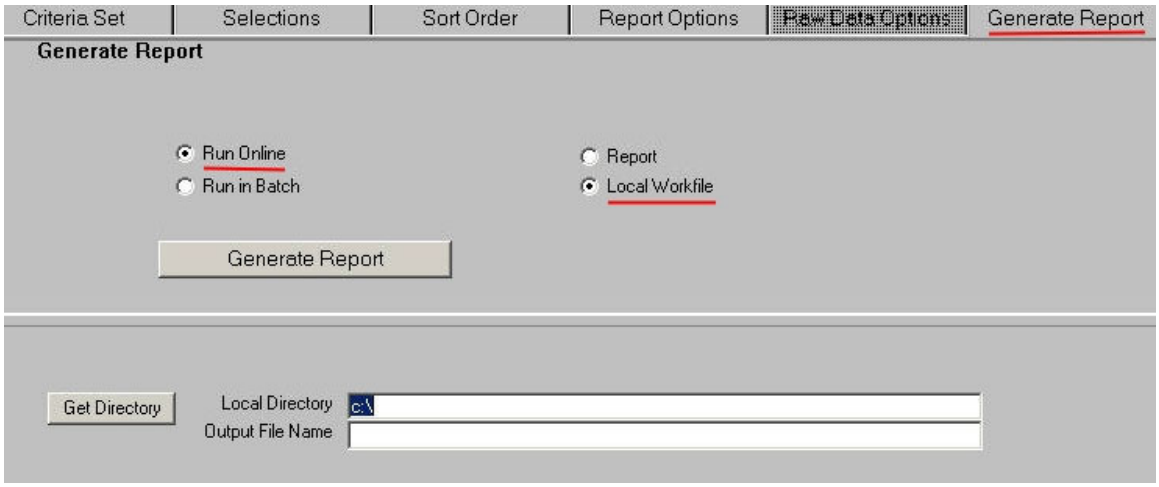


Figure 5-13

Figure 5-13 is the screen presented when the 'Run Online' and 'Local Workfile' options are selected. When these options are selected, a text file will be created of the data in the report. The reports that can be generated in this format are the Quick Look, Extract P/A Data, Extract Raw Data and the Extract Site/Monitor Data reports.

Local Workfiles are normally used to create a file that can be input to another application such as a spreadsheet.

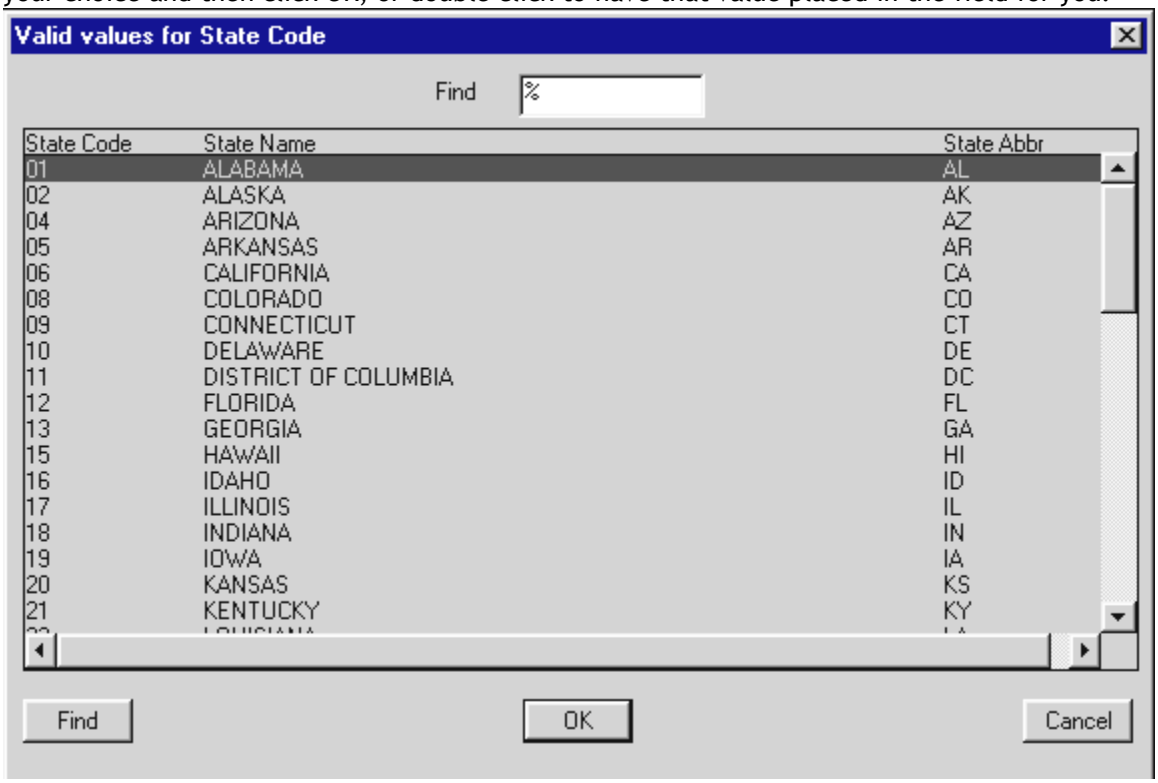
Prior to clicking the Generate Report button, the Output File Name must be specified.

Appendix A. Tips & Tricks

- File names: Use all lowercase for your file names before FTP'ing them to EPA then you won't have to worry which case each letter is in.

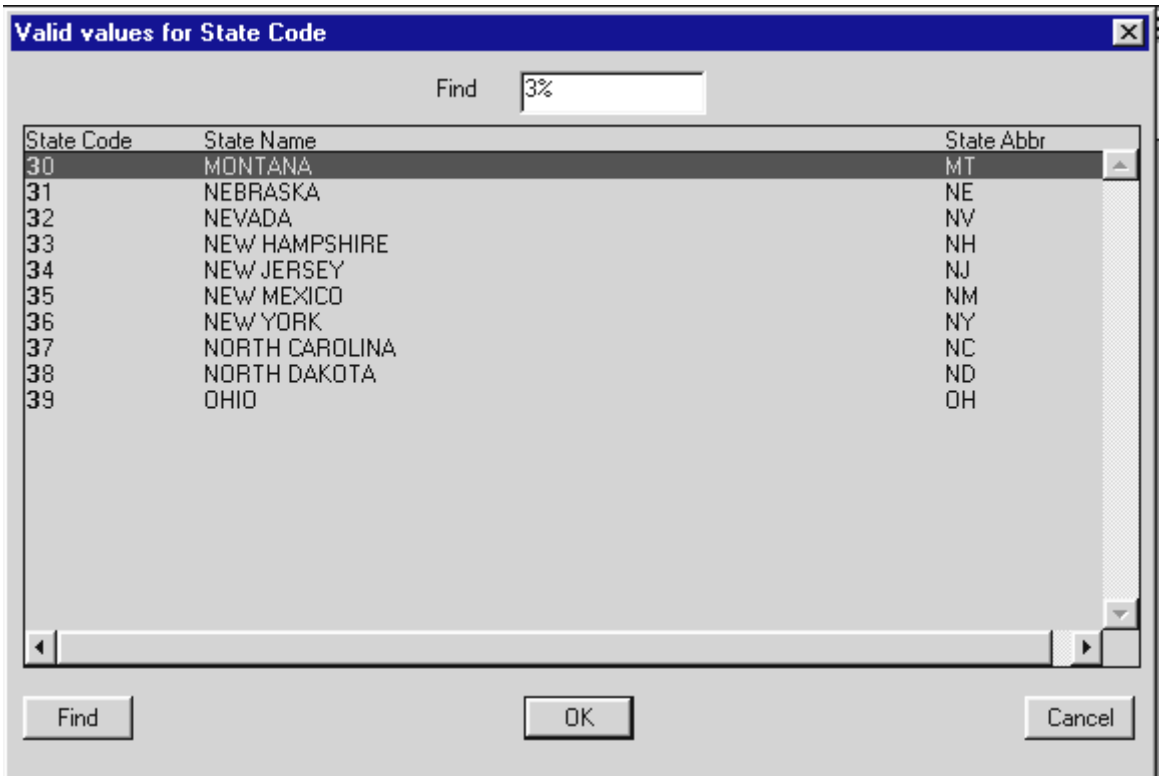
- Making the most of LOV's (List of values):

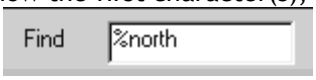
Whenever a  button appears beside a field, you can click on the button to see a list of available values for the field. Here is the list of valid values for State Code. You may click on your choice and then click OK, or double click to have that value placed in the field for you.



That works fine when the list is a short one. When a long list is presented to you, type in the first few letters or numbers if you know them. That will bring you to a starting point much closer to the value you are looking for.

In the example below, we were looking for North Carolina and knew it was 3 something. When you're entering a starting value for the first column in a LOV, enter it in front of the "%". (In fact, if you just start typing, it will put it there. So, you don't have to move a mouse to get there.)



If you don't know the first character(s), but know part of the name, type it in after the "%" in the Find box. 
 Press Enter to see all state names that contain "north".

Printing reports:
The Edit Summary Report prints fine in portrait view.
The Edit Detail Report should be printed landscape.

FTP doesn't work:
1) Only WS_FTP LE works within the AQS application. Be sure you have this limited edition version installed to the default directory c:\program files\ws_ftp and that ws_ftp95.exe is in that directory.
2) Out of environment space message: If you see this message as the AQS application comes up, then you need to increase the environment space for AQS. Right click on the Run AQS icon, click on Properties, click on the Memory tab, and increase the value for the Initial Environment. (Try 4098, if your setting is lower than that.)

Getting FTP to remember your default directories:
Navigate to the directories you normally use for AQS data on your PC and on the EPA server, then click on Options and click the "Use Current Folders as Connection Folders" button.

Getting brief help for a field:
Click your cursor within a field to see brief help for that field in the bottom portion of your screen.

Date fields:
Date fields are in the format yyyymmdd. Formats are displayed when you move your cursor into the field in question.

Is this thing running?
Sometimes it's difficult to tell whether the application is off doing something or not. Your first place to look is to the bottom of the screen at the status line. Sometimes it will say "working"; sometimes it won't. If you try move to another menu option and there is no response, the application is most likely still working on your prior command.

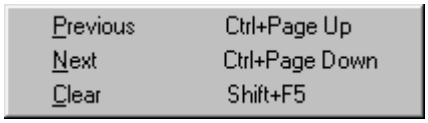
Queries:
Provide as little or as much of the data as needed to search for the data you want.
Example: When updating data, to see ***all*** input transactions for your screening group that need correcting before posting, leave all fields blank and just click on the Execute Query button.

Options and shortcut keys:
Navigational options under the Action menu item have further options and shortcut keys as follows:

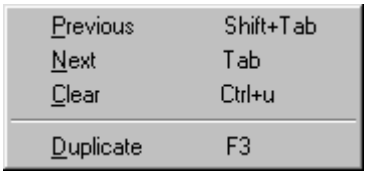
Edit:

Query:

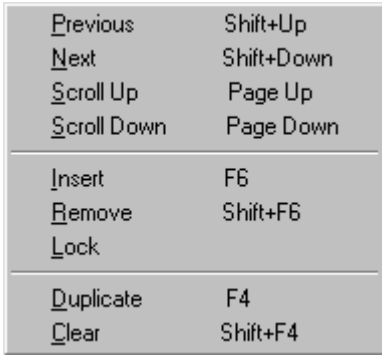
Block:



Field shortcut keys:



Record shortcut keys:



All Shortcut keys:

Function	Key
Cancel	Esc
Clear Block	Shift+F5
Clear Field/Item	Ctrl+u
Clear Form	Shift+F7
Clear Record	Shift+F4
Count Matching Records	Shift+F2
Debug Mode	Ctrl+?
Delete Backward	Backspace
Display Error	Shift+F1
Down	Ctrl+l
Down	Down
Duplicate Field/Item	F3
Duplicate Record	F4
Edit	Ctrl+e
Enter Query	F7
Execute Query	F8
Left	Left
List of Values	F9
Main Menu	Ctrl+.
New Record	F6
Next Block	Ctrl+Page Down
Next Field/Item	Tab
Next Field/Item	Ctrl+Tab
Next Record	Shift+Down
Next Set of Records	Ctrl+>
Previous Block	Ctrl+Page Up
Previous Field/Item	Shift+Ctrl+Tab
Previous Field/Item	Shift+Tab
Previous Menu	Ctrl+Enter
Previous Record	Shift+Up
Print	Shift+F8
Return	Enter
Right	Right
Scroll Down	Page Down
Scroll Up	Page Up
Show Keys	Ctrl+F1
Toggle Query Mode	F5
Up	Up
Up	Ctrl+p

Icons

 Save

 Print Screen

 Print Setup

 Exit

 Edit

 Cut

 Copy

 Paste

 Enter Query

 Execute Query

 Exit Query

 Calendar

 Previous Block

 First Record

 Previous Record

 Next Record

 Next Block

 Last Record

 Insert Record

 Remove Record

 Duplicate Record

 Clear Record

 Rollback Record

 Search and Replace

 Help

 List of Values (LOV)

 Paging Buttons (1st Page, Previous Page, Next Page, Last Page)

Appendix B. Terminology

Acct Num: See UNIX Account

Batch jobs vs Online processes: Much of the data for AQS is generated automatically by data loggers and consist of files with many records. The data from such files may be added to the AQS database through a batch job. When only a few records need to be added or changed, it may be simpler to use an online process to enter the data. In particular, site and monitor data is expected to be entered using an online process. In fact, "comment" information may only be entered in an online process.

Client/Server: A network architecture in which each computer or process on the network is either a client or a server. Servers are powerful computers or processes dedicated to managing disk drives (file servers), printers (print servers), or network traffic (network servers). Clients are PCs or workstations on which users run applications. In AQS, the Client portion of the software includes the User Interface and must be installed on the user's PC. The Server portion, which includes the AQS database and controls for data allowed into the database, is located on an EPA UNIX box.

Database name: AQSProd
Server (database host) name: Canyon.rtpnc.epa.gov

Default UNIX Directory: The directory on the EPA server (Volcano) where you put your data files. Your directory name will follow the format aqrrssll, where "aq" refers to Air Quality, "rr" is your 2-digit region, "ss" is your 2-char state abbreviation, and "ll" is a 2-char alpha or numeric code assigned by EPA to your local agency. State agency personnel should use "00" for the "ll" code. Regional personnel should use "00" for "ss", as well as "ll". (See Appendix G for a list of currently assigned directories. Your use of these directories is restricted according to the authority granted to your userid.)

"Flat" file: A file containing records that have no structured interrelationship. This term is commonly used to describe files that have only textual data viewable via a simple text editor such as Notepad or the MS DOS Edit command. In AQS, data loggers are typically used to create flat files containing records of sample values for a pollutant over a period of time.

FTP: File Transfer Protocol. The software protocol used to transfer a file from your pc to the EPA proxy server. IPSwitch offers a free version of their software (WS_FTP_LE) to governmental and educational personnel. It may be downloaded at www.ipswitch.com. Note: File names on UNIX are case sensitive.

Oracle AQS User ID: 3-character userid assigned by EPA (Same as UNIX ID)
Oracle AQS password: Your initial Oracle AQS password is aqsbeta1

Production tables: Oracle database tables containing data that have passed the basic and relational edits of the AQS program.

Proxy Server: A server that acts as an intermediary between a user and the Internet to ensure security and administrative control. AQS uses a proxy server named Volcano for temporary storage of input data to be loaded into the AQS database.

Rollback: Reverts your data to its state on the database at the last SAVE.

Screening Groups: Groups designated by EPA to control update authority to specific sites and monitors. Users that initiate updates to AQS data are allowed to update only data owned by

their Screening Group. Screening Groups are named based on the state or local agency that has update access for that group. For example, "NORTH CAROLINA" is the name of the screening group used by the North Carolina state agency; "FORSYTHE CO, NC" is the name of the screening group used by the Forsythe County local agency in North Carolina. (See Appendix G - AQS for a list of all Screening Groups.)

SecuRemote: A software encryption package used by EPA to provide secure access to the AQS production database and the proxy server used for file transfers. For current status and information, please visit the web site at http://www.epa.gov/ntsd/securemote/ This icon  in your system tray indicates you have SecuRemote installed.

Staging Tables: Tables that hold data that has not passed the basic edits for its data type. Note that raw data that passes its basic edits goes into pre-production status on the production tables, not the staging tables. Such data must still undergo statistical edits before it may be marked as production data. Its status is shown as "R" to indicate it has passed the relational checks or "S" to indicate it has passed the statistical checks. (See Status Ind below.)

Status Ind: For Sample Values (a.k.a., raw data), the Status Indicator indicates the current status of the value. Users outside the screening group for the monitor will only see records that are in production status. Users within the screening group, may also see pre-production status indicators. The following table lists the valid status indicators for sample values:

P	➔ Production
S	➔ Statistical Analysis completed (a pre-production status)
R	➔ Relational and basic edits completed (a pre-production status)
I	➔ Inactive
F	➔ Being inserted via batch processing

Figure 5-14

Status info: The last line on the screen typically shows your status. It will say, "Enter query" when you're in query mode. If you've already queried, it will show which record you are viewing of the batch it returned. "Record 1/?" means you're viewing the first record and the system does not yet know how many records matched your request. (Queries would take longer if it counted all the records before displaying any of them.)

Tabs: Tabs provide access to additional data about the record(s) you are viewing. If a tab appears "grayed out" then that information is either not yet available, does not exist, or you are not authorized to view it.

UNIX ID: 3-character userid assigned by EPA
UNIX password: password assigned by EPA. This password must be changed every 90 days.
UNIX Account: Accounts are established by EPA Headquarters and Regional personnel to manage users of EPA systems. Account names for AQS follow the same structure as the default UNIX directories: aqrrssll, where "rr" is the EPA region, "ss" is the 2-letter state abbreviation, and "ll" is a 2-character code for the local agency. UNIX ID, password, and account are shown on the TSSMS Account Authorization Notice issued by EPA and mailed to each registered user.
.Input Transaction Formats

Appendix C. Input Transaction Formats

This document provides the format to process batch transactions for the re-engineered Air Quality Subsystem. The first field of all input formats will be the transaction type, which will indicate the type of data in the record. (The valid transaction types are listed below.) The second field will be the action code, which will indicate the requested database manipulation action. The valid action codes are: "I" for insert, "U" for update, and "D" for delete.

All transactions will be pipe delimited ("|"). A delimiter should not follow the final field in a record, so there will always be one less delimiter than fields for the given transaction type. It is essential that the proper number of delimiters be provided for a given transaction. So even if you need to only update one column on the database with "Monitor Basic" information, you still need to have 27 delimiters in that row. If you need to report a given field as null, place two delimiters back to back ("||"). Text fields should not be enclosed with single or double quotation marks. The choice to use delimited versus positional is based on:

a) **Change in the monitor-id:** The monitor id will now consist of a 2-digit POC code. Instead of having to worry about adding a "0-padding" in front of or behind the current POC, you will be able to use the same id as now.

b) **Potential changes in record lengths:** There is always the potential of record lengths changing. We hope by using a delimited format, this will minimize the impact of any future changes in the structure of the data input formats or new entries in the associated reference tables. The choice of the pipe delimiter was to help ensure that the symbol would not be inadvertently used in free-format text fields.

Other Notation: R - Field is required for any action
R(n) - Field is Required for action 'n' (R(I) means required for an Insert Action for example)
X(n) - Conditionally Required for action 'n'

Transaction Type	Transaction Description	No. Of Fields	No. Of Delimiters
AA	Basic Site Information	45	44
AB	Site Street Information	12	11
AC	Site Open Path Information	13	12
MA	Basic Monitor Information	28	27
MB	Monitor Sampling Periods	9	8
MC	Monitor Type Information	10	9
MD	Monitor Agency Role	11	10
ME	Monitoring Objective Information	11	10
MF	Monitor Sampling Schedule	22	21
MG	Monitor Street Description	9	8
MH	Monitor Obstruction Information	11	10
MI	Monitor Regulatory Compliance	10	9
MJ	Monitor Collocation Period	11	10
MK	Monitor Protocol	11	10
RC	Composite Raw Data	27	26
RD	Hourly, Daily, Sub-Hourly Raw Data	28	27
RA	Accuracy Data	32	31
RP	Precision Data	18	17
RS	Annual Summary Data	38	37

Please Note
The intent of the "Formatting Rules" described on the following pages are not intended to illustrate the complete validation procedures that a particular piece of data will be subject to. It is merely stating the format of the field or foreign key constraint as defined in the database.

AA - BASIC SITE INFORMATION

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (AA)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist in SITE table if Action code is 'U' or 'D'
Latitude [X(I)]	Number - 2.6 signed
Longitude [X(I)]	Number - 3.6 signed
UTM Zone [X(I)]	Number - 2.0 format
UTM Easting [X(I)]	Number - 8.2 format
UTM Northing [X(I)]	Number - 8.2 format
LDP Method of Collection [R(I)]	Must exist within Reference Table
LDP Horizontal Datum [R(I)]	Must exist within Reference Table
LDP Source Scale [R(I)]	Number - 12.0 format
LDP Measurement Accuracy Value [R(I)]	Number - 8.2 format
LDP Vertical Measure [R(I)]	Number - 8.2 format
Time Zone	Must exist within Reference Table, if supplied
Support Agency [R(I)]	Must exist within Reference Table
Street Address [R(I)]	Text
City Code [R(I)]	Must exist within Reference Table
Urban Area Code [R(I)]	Must exist within Reference Table
AQCR [R(I)]	Must exist within Reference Table
Land Use [R(I)]	Must exist within Reference Table
Location Setting [R(I)]	Must exist within Reference Table
Date Site Established [R(I)]	Date - YYYYMMDD format
Date Site Terminated	Date - YYYYMMDD format
Zip Code	Must exist within Reference Table, if supplied
Congressional District	Must exist within Reference Table, if supplied
Block	Must exist within Reference Table, if supplied
Block Group	Must exist within Reference Table, if supplied
Census Tract	Must exist within Reference Table, if supplied
Class I Area	Must exist within Reference Table, if supplied
Local Region	Must exist within Reference Table, if supplied
Local_Site Name	Text
HQ Evaluation Date	Date - YYYYMMDD format
Regional Evaluation Date	Date - YYYYMMDD format
Compass Sector	Must exist within Reference Table
Distance to City	Number - 8.2 format
Type Meteorological Site	Must exist within Reference Table, if supplied
Meteorological Site ID	Must exist within Reference Table, if supplied
Distance to Meteorological Site	Number - 8.2 format
Direction to Meteorological Site	Must exist within Reference Table, if supplied
State or Local ID	Text
LDP Vertical Method [R(I)]	Must exist within Reference Table
LDP Vertical Datum [R(I)]	Must exist within Reference Table
LDP Vertical Accuracy Value [R(I)]	Number – 8.2 format

AB - SITE STREET INFORMATION

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (AB)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Tangent Street Number [R]	Number - 2.0 format
Street Name [R(I)]	Text
Type Road [R(I)]	Must exist within Reference Table
Traffic Count [R(I)]	Number - 12.0 format
Year of Traffic Count [R(I)]	Date - YYYY format
Direction to Street [R(I)]	Must exist within Reference Table
Source of Traffic Count	Must exist within Reference Table, if supplied

AC - SITE OPEN PATH INFORMATION

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (AC)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Open Path Number [R]	Number - 2.0 format
Direction to Transmitter [R(I)]	Must exist within Reference Table
Beam Length [R(I)]	Number - 8.2 format
Height of Transmitter [R(I)]	Number - 8.2 format
Height of Receiver [R(I)]	Number - 8.2 format
Minimum Height [R(I)]	Number - 8.2 format
Maximum Height [R(I)]	Number - 8.2 format
Land Use Under Path [R(I)]	Must exist within Reference Table

MA - BASIC MONITOR INFORMATION

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (MA)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist in MONITOR table if Action code 'U'or'D'
Project Class	Must exist within Reference Table, if supplied
Dominant Source	Must exist within Reference Table, if supplied
Measurement Scale	Must exist within Reference Table, if supplied
Open Path Number	Must exist within Site Open Path Table, if supplied
Probe Location Code	Must exist within Reference Table, if supplied
Probe Height	Number - 8.2 format
Horizontal Distance	Number - 8.2 format
Vertical Distance	Number - 8.2 format
Surrogate Flag Indicator	'Y' or 'N'
Unrestricted Air Flow Indicator	'Y' or 'N'
Sample Residence Time	Number - 8.2 format
Worst Site Type	Must exist within Reference Table, if supplied
Applicable NAAQS Indicator	'S', 'A', or 'B', if supplied
Spatial Average Indicator	'Y' or 'N', if supplied
Schedule Exemption Indicator	'Y' or 'N', if supplied
Community Monitoring Zone	Number – 4.0 format
Pollutant Area Code – 1	Must exist within Reference Table, if supplied
Pollutant Area Code – 2	Must exist within Reference Table, if supplied
Pollutant Area Code – 3	Must exist within Reference Table, if supplied
Pollutant Area Code – 4	Must exist within Reference Table, if supplied
Pollutant Area Code – 5	Must exist within Reference Table, if supplied

MB - MONITOR SAMPLING PERIODS

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (MB)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Date Sampling Began [R]	Date - YYYYMMDD
Date Sampling Ended	Date – YYYYMMDD

MC - MONITOR TYPE INFORMATION

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (MC)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Monitor Type [R]	Must exist within Reference Table
Monitor Type Begin Date [R]	Date - YYYYMMDD
Monitor Type End Date	Date - YYYYMMDD

MD - MONITOR AGENCY ROLE

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (MD)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Agency Role Name [R(I)]	Must exist within Reference Table
Agency Code [R]	Must exist within Reference Table
Begin Date [R(I)]	Date - YYYYMMDD
End Date	Date - YYYYMMDD

ME - MONITORING OBJECTIVE INFORMATION

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (ME)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Monitor Objective [R]	Must exist within Reference Table
Urban Area Represented [X(I)]	Must exist within Reference Table, if supplied
MSA Represented [X(I)]	Must exist within Reference Table, if supplied
CMSA Represented [X(I)]	Must exist within Reference Table, if supplied

MF - MONITOR SAMPLING SCHEDULE

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (MF)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
RCF Code [R]	Must exist within Monitor Sampling Period
RCF Begin Date [R]	Date - YYYYMMDD format
RCF End Date	Date - YYYYMMDD format
Number of Samples - January	Number – 12.0 format, if supplied
Number of Samples - February	Number – 12.0 format, if supplied
Number of Samples - March	Number – 12.0 format, if supplied
Number of Samples - April	Number – 12.0 format, if supplied
Number of Samples - May	Number – 12.0 format, if supplied
Number of Samples - June	Number – 12.0 format, if supplied
Number of Samples - July	Number – 12.0 format, if supplied
Number of Samples - August	Number – 12.0 format, if supplied
Number of Samples - September	Number – 12.0 format, if supplied
Number of Samples - October	Number – 12.0 format, if supplied
Number of Samples - November	Number – 12.0 format, if supplied
Number of Samples - December	Number – 12.0 format, if supplied

MG - MONITOR STREET DESCRIPTION

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (MG)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Tangent Street Number [R]	Must exist within Site Tangent Street Table
Distance from Monitor [R(I, U)]	Number - 8.2 format

MH - MONITOR OBSTRUCTION INFORMATION

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (MH)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Type Obstruction [R]	Must exist within Reference Table
Direction from Monitor [R]	Must exist within Reference Table
Distance to Monitor [R]	Number - 8.2 format
Height of Obstruction [R]	Number - 8.2 format

MI - MONITOR REGULATORY COMPLIANCE

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (MI)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Monitor Regulation Code [R]	Must exist within Reference Table
Compliance Indicator	'Y' or 'N'
Compliance Date	Date - YYYYMMDD format

MJ - MONITOR COLLOCATION PERIOD

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (MJ)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Collocation Begin Date [R]	Date - YYYYMMDD format
Collocation End Date	Date - YYYYYMMDD format
Distance from Primary Monitor	Number - 8.2 format
Primary Monitor Indicator [R(I)]	'Y' or 'N'

MK - MONITOR PROTOCOL

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (MK)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Alternate MP ID [R]	Number - 4.0 format
Sample Duration [R(I)]	Must exist within Reference Table
Unit [R (I)]	Must exist within Reference Table
Method [R(I,U)]	Must exist within Reference Table
Sampling Frequency	Must exist within Reference Table, if valued
Composite Type	Must exist within Reference Table, if valued
Alternate Method Detectable Limit	Number - 5.5 format

RC - COMPOSITE RAW DATA

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (RC)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Unit [R(I,U)]	Must exist within Reference Table
Method [R(I,U)]	Must exist within Reference Table
Year [R]	Date – YYYY format
Period [R]	Must exist within Reference Table
Number of Samples [R(I)]	Number – 10.0 format
Composite Type	Must exist within Reference Table
Sample Value [R (I)]	Number - 5.5 format
Alternate MP ID	Must exist in Monitor Protocols table for monitor
Qualifier-1	Must exist within Reference Table, if valued
Qualifier-2	Must exist within Reference Table, if valued
Qualifier-3	Must exist within Reference Table, if valued
Qualifier-4	Must exist within Reference Table, if valued
Qualifier-5	Must exist within Reference Table, if valued
Qualifier-6	Must exist within Reference Table, if valued
Qualifier-7	Must exist within Reference Table, if valued
Qualifier-8	Must exist within Reference Table, if valued
Qualifier-9	Must exist within Reference Table, if valued
Qualifier-10	Must exist within Reference Table, if valued
Method Detectable Limit	Number - 5.5 format
Uncertainty	Number - 5.5 format

RD - HOURLY, DAILY, AND SUB HOURLY RAW DATA

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (RD)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Sample Duration [R(I,U)]	Must exist within Reference Table
Unit [R(I,U)]	Must exist within Reference Table
Method [R(I,U)]	Must exist within Reference Table
Date [R]	YYYYMMDD format
Start Time [R]	hh:mm format
Sample Value [X (I,U)]	Number - 5.5 format
Null Data Code [X (I,U)]	Must exist within Reference Table, if valued
Sampling Frequency	Must exist within Reference Table, if valued
Alternate MP ID	Must exist in Monitor Protocols Table for Monitor
Qualifier-1	Must exist within Reference Table, if valued
Qualifier-2	Must exist within Reference Table, if valued
Qualifier-3	Must exist within Reference Table, if valued
Qualifier-4	Must exist within Reference Table, if valued
Qualifier-5	Must exist within Reference Table, if valued
Qualifier-6	Must exist within Reference Table, if valued
Qualifier-7	Must exist within Reference Table, if valued
Qualifier-8	Must exist within Reference Table, if valued
Qualifier-9	Must exist within Reference Table, if valued
Qualifier-10	Must exist within Reference Table, if valued
Method Detectable Limit	Number - 5.5 format
Uncertainty	Number - 5.5 format

RA - ACCURACY DATA

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (RA)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Accuracy Audit ID Number	Number - 2.0 format (Legacy "Sequence #")
Sample Duration [R]	Must exist within Reference Table
Unit [R (I, U)]	Must exist within Reference Table
Method [R (I, U)]	Must exist within Reference Table
Year Represented	Date - YYYY format
Quarter Represented	'Q1', 'Q2', 'Q3', or 'Q4'
Date [R]	Date – YYYYMMDD format
Type Audit [R (I)]	Must exist within Reference Table
Local Primary Standard [R (I)]	Must exist within Reference Table
Audit Class [R (I)]	Must exist within Reference Table
Accuracy Type [R (I)]	Must exist within Reference Table, if supplied
Audit Sample ID	Text
Expiration Date	Date - YYYYMMDD format
Audit Scheduled	Date - YYYYMMDD format
Level 1 Actual Value [X (I,U)]	Number - 5.5 format
Level 1 Indicated Value [X (I,U)]	Number - 5.5 format
Level 2 Actual Value [X (I,U)]	Number - 5.5 format
Level 2 Indicated Value [X (I,U)]	Number - 5.5 format
Level 3 Actual Value [X (I,U)]	Number - 5.5 format
Level 3 Indicated Value [X (I,U)]	Number - 5.5 format
Level 4 Actual Value [X (I,U)]	Number - 5.5 format
Level 4 Indicated Value [X (I,U)]	Number - 5.5 format
Other Level Actual Value [X (I,U)]	Number - 5.5 format
Other Level Indicated Value [X (I,U)]	Number - 5.5 format
Zero Span	Number - 5.5 format

RP - PRECISION DATA

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (RP)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Precision ID [R]	Number - 2.0 format
Sample Duration [R(I,U)]	Must exist within Reference Table
Unit [R (I, U)]	Must exist within Reference Table
Actual Method [R(I,U)]	Must exist within Reference Table, if supplied
Date [R]	Date - YYYYMMDD format
Actual Value	Number - 5.5 format
Indicated Method	Must exist within Reference, if supplied
Indicated Value	Number - 5.5 format
Collocated POC ID [X(I)]	Must exist within MONITOR Table
Precision Sample ID	Text – Up to 10 characters
Agency Performing Audit	Must exist with AGENCIES Table

RS - ANNUAL SUMMARY DATA

Field Name	Formatting Rule
Transaction Type [R]	Must exist within Reference Table (RS)
Action Code [R]	Must = I, U, or D
State Code [R]	Must exist within Reference Table
County Code [R]	Must exist within Reference Table
Site ID [R]	Must exist within SITE table
Parameter [R]	Must exist within Reference Table
POC [R]	Must exist within MONITOR table
Sample Duration [R]	Must exist within Reference Table
Unit [R(I)]	Must be in terms of standard units for Parameter
Sampling Methodology [R(I)]	Must exist within Reference Table
Year [R]	Date - YYYY format
Exceptional Data Type [R]	'0', '1', or '2'
Count of Observations	Number - 5.0 format
Number of Exceptional Events	Number - 5.0 format
Highest Sample Value	Number - 5.5 format
Date of Highest Sample Value	Date - YYYYMMDD Format
Time of Highest Sample Value	hh:mm format
2nd Highest Sample Value	Number - 5.5 format
Date of 2nd Highest Sample Value	Date - YYYYMMDD format
Time of 2nd Highest Sample Value	hh:mm format
3rd Highest Sample Value	Number - 5.5 format
4th Highest Sample Value	Number - 5.5 format
5th Highest Sample Value	Number - 5.5 format
Lowest Sample Value	Number - 5.5 format
Arithmetic Mean	Number - 5.5 format
Arithmetic Standard Deviation	Number - 5.5 format
Geometric Mean	Number - 5.5 format
Geometric Standard Deviation	Number - 5.5 format
10th Percentile	Number - 5.5 format
25th Percentile	Number - 5.5 format
50th Percentile	Number - 5.5 format
75th Percentile	Number - 5.5 format
90th Percentile	Number - 5.5 format
95th Percentile	Number - 5.5 format
98th Percentile	Number - 5.5 format
99th Percentile	Number - 5.5 format
Percent of Observations	Number - 6.4 format
Number < MDL	Number - 5.0 format

At least one of these fields must be valued on an Insert or Update

Appendix D. Transaction Requirements

Entity	Transaction Name	Transaction Type	Minimum Requirement	Particulate Samplers	SLAMS	NAMS or PAMS[3]
Site	Basic Site Information	AA	✔	✔	✔	✔
	Street Information	AB			✔ 8	✔
	Open Path	AC	1	1	1	1
Monitor	Basic Information	MA	✔	✔	✔	✔
	Sampling Period	MB	✔	✔	✔	✔
	Type Information	MC	✔	✔	✔	✔
	Agency Role	MD	5	✔	✔	✔
	Monitoring Objective	ME	✔	✔	✔	✔
	Sampling Schedule	MF		✔		✔ 6
	Street Description	MG			✔ 8	✔
	Obstruction	MH	2	2	2	2
	Regulatory Compliance	MI			✔ 8	✔
	Collocation Period	MJ		✔ 7		
	Protocol	MK	4	4	4	4

1. Open Path information is only required if the sampling technology is utilized.
2. Obstruction Information is only required when "Unrestricted Air Flow Indicator" on the Basic Monitor Information is "N" or "W".
3. The monitor can only be designated as a NAMS or PAMS by a headquarters person. Specific data must is required on these transactions before the monitor can be designated.
4. Monitor Protocol is only required when the method MDL is different than the system default.
5. Only required for criteria pollutants.
6. Required only for PAMS.
7. Not required but useful to evaluate QA data reporting from collocated monitors.

Information on these transactions must be reported before a SLAMS could be considered for NAMS or PAMS designation.

Appendix E. AQS Screening Groups by State

State Name	State Abbr	State Code	EPA Region	Screening Group Name	Screening Group Num	Screening Grp Type
ALABAMA	AL	01	04	ALABAMA	49	STATE
	AL		04	HUNTSVILLE, AL	2	LOCAL
	AL		04	JEFFERSON CO, AL	3	LOCAL
ALASKA	AK	02	10	ALASKA	50	STATE
ARIZONA	AZ	04	09	ARIZONA CONTINUOUS	125	STATE
	AZ		09	ARIZONA MANUAL	124	STATE
	AZ		09	ARIZONA OTHER	51	STATE
	AZ		09	MARICOPA CO, AZ	4	LOCAL
	AZ		09	PIMA CO, AZ	5	LOCAL
	AZ		09	PINAL CO, AZ	128	LOCAL
ARKANSAS	AR	05	06	ARKANSAS	52	STATE
CALIFORNIA	CA	06	09	ANTELUPE, CA	9	LOCAL
	CA		09	BAY AREA AQMD, CA	18	LOCAL
	CA		09	CALIFORNIA 1	53	STATE
	CA		09	CALIFORNIA 2	126	STATE
	CA		09	CALIFORNIA 3	127	STATE
	CA		09	GREAT BASIN, CA	120	LOCAL
	CA		09	MOJAVE DESERT AQMD, CA	19	LOCAL
	CA		09	MONTEREY BAY UNIFIED, CA	10	LOCAL
	CA		09	NORTHERN SIERRA, CA	11	LOCAL
	CA		09	PLACER CO, CA	12	LOCAL
	CA		09	SAN DIEGO CO, CA	13	LOCAL
	CA		09	SAN JOAQUIN CO, CA	15	LOCAL
	CA		09	SAN LUIS OBISPO CO, CA	8	LOCAL
	CA		09	SANTA BARBARA CO, CA	6	LOCAL
	CA		09	SCAQMD, CA HIVOL	141	LOCAL
	CA		09	SCAQMD, CA HOURLY	140	LOCAL
	CA		09	SCAQMD, CA OTHER	17	LOCAL
	CA		09	SCAQMD, CA PAMS	142	LOCAL
	CA		09	SCAQMD, CA PM2.5	143	LOCAL
	CA		09	SCAQMD, CA TOXICS	144	LOCAL
	CA		09	SHASTA CO, CA	16	LOCAL
	CA		09	VENTURA CO, CA	7	LOCAL
COLORADO	CO	08	08	COLORADO	54	STATE
CONNECTICUT	CT	09	01	CONNECTICUT	55	STATE
DELAWARE	DE	10	03	DELAWARE	56	STATE
DISTRICT OF COLUMBIA	DC	11	03	DISTRICT OF COLUMBIA	57	STATE
FLORIDA	FL	12	04	FLORIDA	58	STATE
GEORGIA	GA	13	04	GEORGIA	59	STATE
HAWAII	HI	15	09	HAWAII	60	STATE
IDAHO	ID	16	10	IDAHO	61	STATE
	ID		10	SHOSHONE-BANNOCK TRIBES	22	TRIBE
ILLINOIS	IL	17	05	ILLINOIS	62	STATE
INDIANA	IN	18	05	INDIANA	63	STATE
	IN		05	INDIANAPOLIS, IN	23	LOCAL
IOWA	IA	19	07	IOWA	64	STATE
	IA		07	LYNN CO, IA	24	LOCAL
	IA		07	POLK CO, IA	25	LOCAL
KANSAS	KS	20	07	KANSAS	65	STATE
KENTUCKY	KY	21	04	JEFFERSON CO, KY	147	LOCAL
	KY		04	KENTUCKY	66	STATE
LOUISIANA	LA	22	06	LOUISIANA	67	STATE
MAINE	ME	23	01	CENTRAL REGION, ME	27	LOCAL
	ME		01	EAST REGION, ME	28	LOCAL
	ME		01	MAINE	68	STATE
	ME		01	NORTH REGION, ME	29	LOCAL
	ME		01	SOUTH REGION, ME	26	LOCAL
MARYLAND	MD	24	03	MARYLAND	69	STATE
MASSACHUSETTS	MA	25	01	MASSACHUSETTS	70	STATE
MICHIGAN	MI	26	05	MICHIGAN	71	STATE
	MI		05	WAYNE CO, MI	30	LOCAL

MINNESOTA	MN	27	05	MINNESOTA	72	STATE
MISSISSIPPI	MS	28	04	MISSISSIPPI	73	STATE
MISSOURI	MO	29	07	MISSOURI	74	STATE
MONTANA	MT	30	08	MONTANA	75	STATE
NEBRASKA	NE	31	07	NEBRASKA	76	STATE
NEVADA	NV	32	09	CLARK CO, NV	31	LOCAL
	NV		09	NEVADA	77	STATE
	NV		09	WASHOE CO,NV	32	LOCAL
NEW HAMPSHIRE	NH	33	01	NEW HAMPSHIRE	78	STATE
NEW JERSEY	NJ	34	02	NEW JERSEY	79	STATE
NEW MEXICO	NM	35	06	ALL INDIAN PUEBLO COUNCIL, NM	138	TRIBE
	NM		06	CITY OF ALBUQUERQUE	137	LOCAL
	NM		06	JEMEZ PUEBLO, NM	136	TRIBE
	NM		06	NEW MEXICO	80	STATE
NEW YORK	NY	36	02	NEW YORK	81	STATE
	NY		02	SAINT REGIS MOHAWK	155	TRIBE
NORTH CAROLINA	NC	37	04	FORSYTH CO, NC	33	LOCAL
	NC		04	MECKLENBURG CO, NC	34	LOCAL
	NC		04	NORTH CAROLINA EDAS	82	STATE
	NC		04	NORTH CAROLINA PM25	130	STATE
	NC		04	NORTH CAROLINA VOC	129	STATE
NORTH DAKOTA	ND	38	08	NORTH DAKOTA	83	STATE
OHIO	OH	39	05	DAYTON RAPCA	122	LOCAL
	OH		05	OHIO	84	STATE
OKLAHOMA	OK	40	06	INTER-TRIBAL ENVIRONMENTAL COUNCIL	131	TRIBE
	OK		06	OKLAHOMA	85	STATE
	OK		06	PONCA TRIBE, OK	132	TRIBE
	OK		06	QUAPAW TRIBE, OK	134	TRIBE
	OK		06	SAC & FOX NATION, OK	133	TRIBE
OREGON	OR	41	10	OREGON	86	STATE
PENNSYLVANIA	PA	42	03	ALLEGHENY CO, PA	36	LOCAL
	PA		03	PENNSYLVANIA	87	STATE
	PA		03	PHILADELPHIA, PA	35	LOCAL
RHODE ISLAND	RI	44	01	RHODE ISLAND	88	STATE
SOUTH CAROLINA	SC	45	04	SOUTH CAROLINA	89	STATE
SOUTH DAKOTA	SD	46	08	SOUTH DAKOTA	90	STATE
TENNESSEE	TN	47	04	CHATTANOOGA, TN	39	LOCAL
	TN		04	DAVIDSON CO, TN	145	LOCAL
	TN		04	KNOXVILLE CO, TN	38	LOCAL
	TN		04	MEMPHIS/SHELBY CO, TN	37	LOCAL
	TN		04	TENNESSEE	91	STATE
TEXAS	TX	48	06	TEXAS	92	STATE
	TX		06	TEXAS NCAMS	151	STATE
	TX		06	TEXAS PM2.5	150	STATE
UTAH	UT	49	08	UTAH	93	STATE
VERMONT	VT	50	01	VERMONT	94	STATE
VIRGINIA	VA	51	03	VIRGINIA	95	STATE
WASHINGTON	WA	53	10	WASHINGTON	96	STATE
WEST VIRGINIA	WV	54	03	WEST VIRGINIA	97	STATE
WISCONSIN	WI	55	05	WISCONSIN	98	STATE
WYOMING	WY	56	08	WYOMING	99	STATE
PUERTO RICO	PR	72	02	PUERTO RICO	101	STATE
VIRGIN ISLANDS	VI	78	02	VIRGIN ISLANDS	102	STATE

Only users assigned to the screening group are permitted to insert, update, or delete data for monitors owned by that screening group. Users may be assigned to more than one screening group.

This list is current as of 10-APR-02 02.03.48 PM.

Appendix F. AQS Report Examples

Below are examples of many of the reports created in the 'Standard Report Selection' area of AQS. Below the report title are the fields required to create the report.

Accuracy Report (AMP247)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier

United States Environmental Protection Agency

Air Quality Subsystem
ACCURACY REPORT

Parameter: Ozone
State: NORTH CAROLINA
Agency: NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT

Accuracy Type	Monitor ID	Conc Level	Date	Above Criteria	Actual Value	Indicated Value	Relative % Diff
PE	37-183-0016-44201-1	1	19980625	N	0.048	0.05	4.1667
PE	37-183-0016-44201-1	2	19980625	N	0.088	0.09	3.4091
PE	37-183-0016-44201-1	3	19980625	N	0.159	0.16	1.8868
PE	37-183-0016-44201-1	4	19980625	N	0.178	0.18	2.2472
PE	37-183-0016-44201-1	5	19980625	N	0.224	0.23	2.2321

Accuracy results from Linear Regression Analysis of all records in AQS database:

Slope: 0.0003 **Intercept:** 57.7186 **R2:** 0.0000

Air Quality Index Report (AMP410)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier

United States Environmental Protection Agency

Air Quality Subsystem
Air Quality Index Report

Jan. 24, 2002

State: NORTH CAROLINA

	Critical Pollutant						OtherPollutants				
Date	Pollutant	Descriptor	AQI Value	Site-ID	Total Sites	Dur. Code	Pollutant	AQI Value	Site-ID	Total Sites	Dur. Code
19980601	Ozone	MODERATE	79	37-183-0017	3	W	Carbon Monoxide	8	37-183-0011	2	Z
19980602	Ozone	MODERATE	79	37-183-0015	3	W	Carbon Monoxide	8	37-183-0011	2	Z
19980603	Ozone	UNHEALTHY FOR SENSITIVE	114	37-183-0015	3	W	Carbon Monoxide	6	37-183-0011	2	Z
19980604	Ozone	MODERATE	51	37-183-0016	3	W	PM10 Total 0-10um Carbon Monoxide	26 9	37-183-0003 37-183-0011	1 2	7 Z
19980605	Ozone	GOOD	39	37-183-0015	3	W	Carbon Monoxide	16	37-183-0011	2	Z
19980606	Ozone	GOOD	35	37-183-0016	3	W	Carbon Monoxide	16	37-183-0011	2	Z
19980607	Ozone	GOOD	45	37-183-0016	3	W	Carbon Monoxide	6	37-183-0011	2	Z
19980608	Ozone	MODERATE	51	37-183-0015	3	W	Carbon Monoxide	7	37-183-0011	2	Z
19980609	Ozone	GOOD	40	37-183-0016	3	W	Carbon Monoxide	9	37-183-0011	2	Z
19980610	Ozone	GOOD	36	37-183-0015	3	W	PM10 Total 0-10um Carbon Monoxide	21 13	37-183-0003 37-183-0011	1 2	7 Z
19980611	Ozone	MODERATE	90	37-183-0015	3	W	Carbon Monoxide	13	37-183-0011	2	Z
19980612	Ozone	MODERATE	51	37-183-0016	3	W	Carbon Monoxide	13	37-183-0011	2	Z
19980613	Ozone	MODERATE	51	37-183-0015	3	W	Carbon Monoxide	11	37-183-0011	2	Z
19980614	Ozone	MODERATE	59	37-183-0015	3	W	Carbon Monoxide	10	37-183-0011	2	Z
19980615	Ozone	GOOD	47	37-183-0015	3	W	Carbon Monoxide	13	37-183-0011	2	Z
19980616	Ozone	MODERATE	51	37-183-0015	3	W	PM10 Total 0-10um Carbon Monoxide	24 6	37-183-0003 37-183-0011	1 2	7 Z

Air Quality Summary Report (AMP410S)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier

EPA United States Environmental Protection Agency

Air Quality Subsystem
Air Quality Index Summary Report

STATE: NORTH CAROLINA COUNTY: WAKE YEAR: 1998

DAY OF MONTH

	JUN	1998
01	47	M
02	47	T
03	47	W
04	39	H
05	23	F
06	31	S
07	31	U
08	31	M
09	23	T
10	23	W
11	31	H
12	31	F
13	39	S
14	39	U
15	39	M
16	47	T
17	39	W
18	47	H
19	39	F
20	39	S
21	39	U
22	39	M
23	39	T
24	39	W
25	47	H
26	64	F
27	47	S
28	47	U
29	39	M
30	31	T

No. of Days AQI Values:	Good < or = 50	Moderate 51-100	Unhealthy for Sensitive Groups 101-150	Unhealthy 151-200	Very Unhealthy 201-300
	58	2	0	0	0

Daily Summary Report (AMP435)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier

EPA United States Environmental Protection Agency

Air Quality Subsystem
DAILY SUMMARY REPORT

Jan. 23, 2002

Monitor ID	Daily Coll. Date	Duration	Ext. Event	Daily Arith Mean	Daily # Obs	Daily % Obs	Daily Coll. Hour	Daily Max Sample Value	Daily Ranking Num
37-183-0003-81102-1	19980105	24 HOURS	0	16	1	100.0	0	16	44
37-183-0003-81102-1	19980111	24 HOURS	0	21	1	100.0	0	21	32
37-183-0003-81102-1	19980117	24 HOURS	0	15	1	100.0	0	15	47
37-183-0003-81102-1	19980123	24 HOURS	0	10	1	100.0	0	10	58
37-183-0003-81102-1	19980129	24 HOURS	0	11	1	100.0	0	11	55
37-183-0003-81102-1	19980204	24 HOURS	0	4	1	100.0	0	4	61
37-183-0003-81102-1	19980210	24 HOURS	0	28	1	100.0	0	28	19
37-183-0003-81102-1	19980216	24 HOURS	0	7	1	100.0	0	7	59
37-183-0003-81102-1	19980222	24 HOURS	0	14	1	100.0	0	14	49

Data Completeness Detail Report (AMP430)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier.
A Report Option must also be specified.

MONITOR TYPE: OTHER
DATE RANGE: ********** thru 30-JUL-1998
REGION: ATLANTA
STATE: (37) NORTH CAROLINA
Reporting Org: NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT

Site ID / City / Address	Parameter	POC	Duration / Method	OBSERVATIONS Number / Percent Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
37-183-0015	1-2-3-TRIMETHYLBENZENE	1	B						19	12						31
RALEIGH			123						7.9	5						6.5
808 NORTH STATE STREET																
37-183-0015	1-2-4-TRIMETHYLBENZENE	1	B						19	12						31
RALEIGH			123						7.9	5						6.5
808 NORTH STATE STREET																

STATE: (37) NORTH CAROLINA
AGENCY SUMMARY: NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DE

Parameter	Active Monitors	# Not Responding	# Monitors > 75%	% Monitors > 75	Monitors Avg Cmplt
PM10 Total 0-10um	1	0	1	100	100

STATE SUMMARY: (37) NORTH CAROLINA

Parameter	Active Monitors	# Not Responding	# Monitors > 75%	% Monitors > 75	Monitors Avg Cmplt
PM10 Total 0-10um	1	0	1	100	100

Frequency Distribution Report (AMP230)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier

EPA United States Environmental Protection Agency

Air Quality Subsystem
FREQUENCY DISTRIBUTION REPORT

Jan. 23, 2002

NORTH CAROLINA

Site ID: 37-183-0003
County: WAKE
City: RALEIGH
Support Agency:
Address: FIRE STATION #9 SIX FORKS RD NORTH HILLS

AQCR: EASTERN PIEDMONT
Urban Area: RALEIGH, NC
Location Setting: SUBURBAN
Land Use: COMMERCIAL

Latitude: 35.841111
Longitude: -79
UTM Zone: 17
Utm Northing: 3968690
Utm Easting: 712875
Vertical Meas: 125.0

Site Comments: FILTERS SENT TO EPA ON 12 DAY SCHEDULE CAROLINA POWER ELECTRIC METER NO. NO METER (FIRE STATION HOOK UP):

Parameter Year	Exc Evt	POC %Obs	Reporting Org #Obs	#Pri	#Sec	Method of Collection and Analysis Min Obs	Percentages								MDL	Duration	Unit Desc Maximum Values	Arith Mean
PM10 Total 0-10um		1		0776		HI-VOL SA/GMW-1200				GRAVIMETRIC					4	24 HOURS		UG/CU METER (25 C)
			61	0	0	4	**10**	**10**	**25**	**25**	**50**	**50**	**75**	**75**			**1**	24.6
1998	1	100					11	11	16	16	22	22	31	31			63	

Maximum Values Report (AMP440)

Required fields: Start/End Date And parameter

United States Environmental Protection Agency

Air Quality Subsystem
MAXIMUM VALUES REPORT

Jan. 23, 2002

Ozone (44201)

State: NORTH CAROLINA
Duration: 1 HOUR
Year: 1998

Primary: .125
Secondary: .125
Unit: PPM

Site ID	POC	County Name / City Name	Methods	Maximum Values					Num Obs	Num Exc	Exc Data Flag
37-183-0015	1	WAKE	047	**1** .122	**2** .118	**3** .115	**4** .113	**5** .107	4645	0	2
		RALEIGH		09/01:14	09/13:15	08/22:14	06/26:16	05/16:13			
				6 .106	**7** .106	**8** .106	**9** .106	**10** .105			
				06/22:14	08/25:12	09/02:13	09/14:14	06/03:16			
Site ID	**POC**	**County Name / City Name**	**Methods**	**Maximum Values**					**Num Obs**	**Num Exc**	**Exc Data Flag**
37-183-0015	1	WAKE	047	**1** .122	**2** .118	**3** .115	**4** .113	**5** .106	4599	0	1
		RALEIGH		09/01:14	09/13:15	08/22:14	06/26:16	06/22:14			
				6 .106	**7** .106	**8** .106	**9** .105	**10** .104			
				08/25:12	09/02:13	09/14:14	06/03:16	06/18:18			

Monitor Description Report (AMP390)

Required fields: Parameter or Geographic Qualifier.

United States Environmental Protection Agency

Air Quality Subsystem
MONITOR DESCRIPTION

Jan. 23, 2002

NORTH CAROLINA

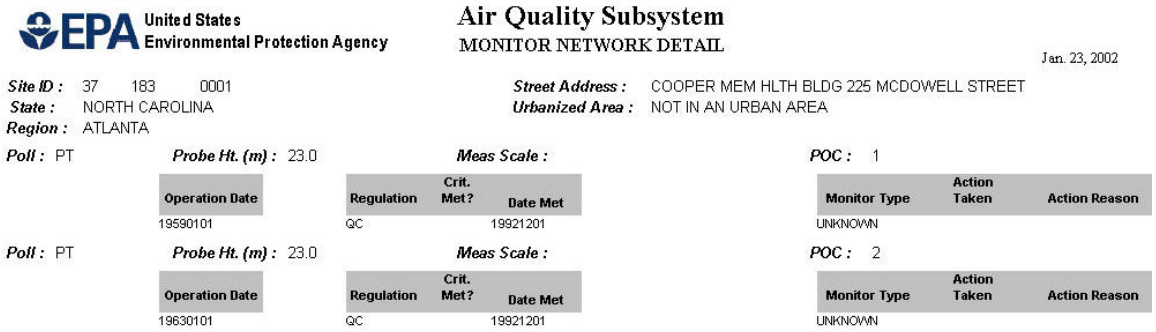
Monitor ID: 37_183_0017-43225-1
Parameter Measured: 43225
Date of Latest Collection:
Last Updated:
Owner: NORTH CAROLINA
City: GARNER
Street Address: 5033 TV TOWER RD GARNER NC 27529
Site Name: TV TOWER LOCATED AT AUBURN NC
MSA: RALEIGH-DURHAM-CHAPEL HILL, NC
County: WAKE
UAR: RALEIGH, NC
Project Type:
Dominant Source:
Meas. Scale:
Location Setting: SUBURBAN
Probe Location:
Horizontal Distance (m):
Probe Height (m):
Surrogate?:
Vertical Distance (m):
Sample Residence Time:
Unrestricted Air FLow?:

Dates of Operation		Agency Roles			
Begin Date	End Date	Agency Role	Agency Name	Begin Date	End Date
19980613		ANALYZING	NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT		
		COLLECTING	NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT		
		REPORTING	NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT	19980613	

Monitor Type Information				
Monitor Type	Begin Date	End Date	Action Type	Action Reason
OTHER	19980613			

Monitor Network Detail Report (AMP220_D)

Required fields: Parameter or Geographic Qualifier.



EPA United States Environmental Protection Agency

Air Quality Subsystem
MONITOR NETWORK DETAIL

Jan. 23, 2002

Site ID : 37 183 0001
State : NORTH CAROLINA
Region : ATLANTA
Street Address : COOPER MEM HLTH BLDG 225 MCDOWELL STREET
Urbanized Area : NOT IN AN URBAN AREA

Poll : PT *Probe Ht. (m) :* 23.0 *Meas Scale :* *POC :* 1

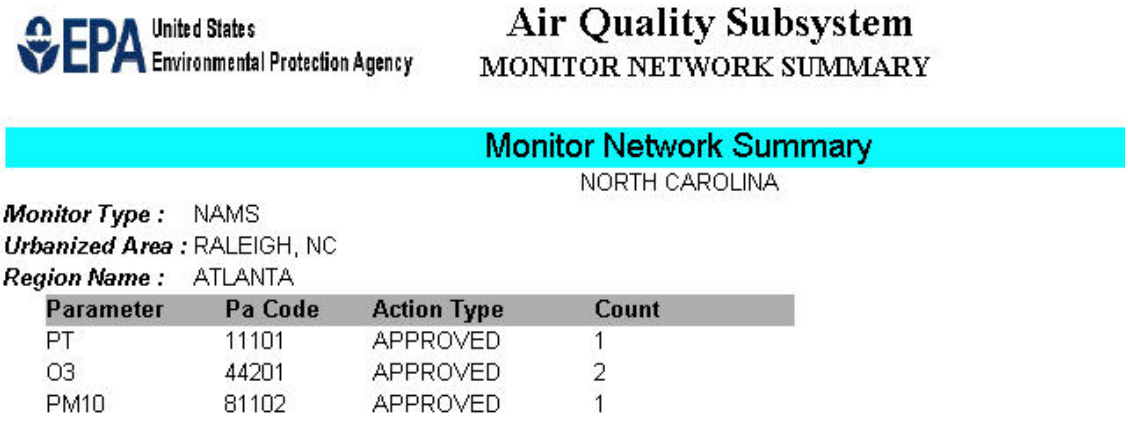
Operation Date	Regulation	Crit. Met?	Date Met	Monitor Type	Action Taken	Action Reason
19590101	QC		19921201	UNKNOWN		

Poll : PT *Probe Ht. (m) :* 23.0 *Meas Scale :* *POC :* 2

Operation Date	Regulation	Crit. Met?	Date Met	Monitor Type	Action Taken	Action Reason
19630101	QC		19921201	UNKNOWN		

Monitor Network Summary (AMP220_S)

Required fields: Parameter or Geographic Qualifier.



EPA United States Environmental Protection Agency

Air Quality Subsystem
MONITOR NETWORK SUMMARY

Monitor Network Summary
NORTH CAROLINA

Monitor Type : NAMS
Urbanized Area : RALEIGH, NC
Region Name : ATLANTA

Parameter	Pa Code	Action Type	Count
PT	11101	APPROVED	1
O3	44201	APPROVED	2
PM10	81102	APPROVED	1

Precision Report (AMP246)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier

EPA United States Environmental Protection Agency

Air Quality Subsystem
PRECISION REPORT

Jan. 23, 2002

Automated Instruments

Parameter	State	Agency	Monitor ID	Dates	Actual Value	Meas. Value	Unit	Relative % Diff
Carbon Monoxide	NORTH CAROLINA	NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT	37-183-0015-42101-1	19980605	499.000	461.000	PARTS PER BILLION	-7.6152
Carbon Monoxide	NORTH CAROLINA	NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT	37-183-0011-42101-1	19980608	8.700	8.600	PPM	-1.1494
Carbon Monoxide	NORTH CAROLINA	NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT	37-183-0015-42101-1	19980609	499.000	468.000	PARTS PER BILLION	-6.2124
Carbon Monoxide	NORTH CAROLINA	NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT	37-183-0015-42101-1	19980611	499.000	480.000	PARTS PER BILLION	-3.8076

Quick Look Criteria Parameters (AMP450)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier

EPA United States Environmental Protection Agency

Air Quality Subsystem
QUICK LOOK REPORT

Jan. 23, 2002

Parameter: CARBON MONOXIDE
All Values are in Units of Parts Per Million

Site ID	POC	Org Type	City	County	Address	Year	# Obs	1-hour Highest Value	1-hour 2nd Highest Value	# > 35	8-hour Highest Value	8-hour 2nd Highest Value	# > 9	# Methods Used	Certified	Exc. Data
37-183-0011	1	F	RALEIGH	WAKE	420 S PERSON ST	1998	8,674	7.6	7.3	0	5.5	5.4	0	1		0
37-183-0015	2	F	RALEIGH	WAKE	808 NORTH STATE STREET	1998	3,069	1.9	1.9	0	1.8	1.8	0	1		0
37-183-0018	1	F	RALEIGH	WAKE	HWY 70WEST AND HWY 50NORTH	1998	3,700	7.9	6.6	0	5.0	4.8	0	1		0

Quick Look Non Criteria Parameters (AMP450NC)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier

EPA United States Environmental Protection Agency

Air Quality Subsystem
QUICK LOOK REPORT

Jan. 23, 2002

Parameter	Unit	Site ID	POC	Org Type	City	County	Address	Year	# Obs	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	Arith. Mean		Duration	Exc. Data
REACTIVE OXIDES OF NITROGEN	PPM	37-183-0015	1	F	RALEIGH	WAKE	808 NORTH STATE STREET	1998	3,001	0.1	0.1	0.1	0.1	0.0	*	1 HOUR	0
NITRIC OXIDE	PPM	37-183-0015	2	F	RALEIGH	WAKE	808 NORTH STATE STREET	1998	3,001	0.1	0.1	0.1	0.1	0.0	*	1 HOUR	0
SUM OF PAMS TARGET COMPOUNDS	Parts per billion carbon	37-183-0011	1	F	RALEIGH	WAKE	420 S PERSON ST	1998	28	921.6	684.5	663.3	641.4	330.8	*	4 HOUR	0
SUM OF PAMS TARGET COMPOUNDS	Parts per billion carbon	37-183-0015	1	F	RALEIGH	WAKE	808 NORTH STATE STREET	1998	66	468.5	243.0	224.1	214.5	113.4	*	3 HOURS	0
SUM OF PAMS TARGET COMPOUNDS	Parts per billion carbon	37-183-0017	1	F	GARNER	WAKE	5033 TV TOWER RD GARNER NC 27529	1998	22	229.0	167.0	166.0	159.0	119.1	*	3 HOURS	0
TOTAL NMOC	Parts per billion carbon	37-183-0011	1	F	RALEIGH	WAKE	420 S PERSON ST	1998	28	880.4	632.3	599.3	576.8	286.0	*	4 HOUR	0
TOTAL NMOC	Parts per billion carbon	37-183-0015	1	F	RALEIGH	WAKE	808 NORTH STATE STREET	1998	66	414.9	227.3	214.8	196.2	90.2	*	3 HOURS	0
TOTAL NMOC	Parts per billion carbon	37-183-0017	1	F	GARNER	WAKE	5033 TV TOWER RD GARNER NC 27529	1998	22	197.0	144.0	141.0	128.0	93.4	*	3 HOURS	0

Raw Data Daily (AMP350D)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier

EPA United States Environmental Protection Agency

Air Quality Subsystem
Raw Data Report

Jan. 23, 2002

24 HOUR

(81102) PM10 Total 0-10um — STATE: (37) NORTH CAROLINA — CAS NUMBER:
1998

SITE ID: 37-183-0003 POC: 1 — AQCR: (166) EASTERN PIEDMONT — LATITUDE: 35.841111
COUNTY: (183) WAKE — URBAN-AREA: (6639) RALEIGH, NC — LONGITUDE: -78.643056
CITY: (55000) RALEIGH — LAND USE: COMMERCIAL — UTM-ZONE: 17
SITE ADDRESS: FIRE STATION #9 SIX FORKS RD NORTH HILLS — LOCATION SETTING: SUBURBAN — UTM-NORTHING: 3968890
SUPPORT AGENCY: (0776) NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT — UTM-EASTING: 712875
SITE COMMENTS: FILTERS SENT TO EPA ON 12 DAY SCHEDULE CAROLINA POWER ELECTRIC METER NO. NO METER {FIRE STATION HOOK UP} — ELEVATION-MSL: 125.0
MONITOR COMMENTS: 52 — PROBE HEIGHT: 7.0
MONITOR TYPE COUNT: 3 — INTERVAL: 7
UNITS: 001 UG/CU METER (25 C) — MINIMUM DETECTABLE: 4
COLLECTION AND ANALYSIS METHOD: 063 HI-VOL SA/GMW-1200 GRAVIMETRIC — REPORTING ORGANIZATION: (0776) NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMEN

DAY	MONTH JUN
04	28 H
10	23 W
NO	2
MAX	28
MEAN	25.5

ANNUAL OBSERVATIONS 2 — ANNUAL MEAN 25.5 — ANNUAL MAXIMUM 28

0 SHADED ITEMS EXCEEDED PRIM. STANDARD OF 155
0 BOLDED ITEMS EXCEEDED SEC. STANDARD OF

Raw Data Max Values (AMP350MX)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier

EPA United States Environmental Protection Agency

Air Quality Subsystem

Raw Data Report - DAILY MAXIMUMS

Jan. 24, 2002

(81102) PM10 Total 0-10m

24 HOURS

STATE: (37) NORTH CAROLINA

1998

CAS NUMBER:

SITE ID: 37-183-0003 POC: 1
COUNTY: (183) WAKE
CITY: (68000) RALEIGH
SITE ADDRESS: FIRE STATION #9 SIX FORKS RD NORTH HILLS
SUPPORT AGENCY: ()
SITE COMMENTS: FILTERS SENT TO EPA ON 12 DAY SCHEDULE CAROLINA POWER ELECTRIC METER NO. NO METER (FIRE STATION HOOK UP)
MONITOR COMMENTS: 52
MONITOR TYPE COUNT: 3

AQCR: (166) EASTERN PIEDMONT
URBAN-AREA: (6539) RALEIGH, NC
LAND USE: COMMERCIAL
LOCATION SETTING: SUBURBAN
MINIMUM DETECTABLE: 4

LATITUDE: 35.841111
LONGITUDE: -78.643056
UTM-ZONE: 17
UTM-NORTHING 3968690
UTM-EASTING: 712875
ELEVATION-MSL: 125.0
PROBE HEIGHT: 7.0
INTERVAL: 7

UNITS: (001) UG/CU METER (25 C)
REPORTING ORGANIZATION: (0776) NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNIT
COLLECTION AND ANALYSIS METHOD: 063 HI-VOL SA/GMW-1200 GRAVIMETRIC

DAY	MONTH JUN	JUL	OBS	MEAN
04	28 H	40 S	2	34.0
10	23 W	41 F	2	32.0
16	26 T	20 H	2	23.0
22	40 M	27 W	2	33.5
28	39 U	43 T	2	41.0
NO	5	5		
MAX	40	43		
MEAN	31.2	34.2		

ANNUAL OBSERVATIONS 10 ANNUAL MEAN 32.5 ANNUAL MAXIMUM 43

0 SHADED ITEMS EXCEEDED PRIM. STANDARD OF 155
0 BOLDED ITEMS EXCEEDED SEC. STANDARD OF 155

Raw Data 1 Hour (AMP350H)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier

United States Environmental Protection Agency

Air Quality Subsystem

Raw Data Report - HOURLY

Jan. 24, 2002

(42101) Carbon Monoxide — CAS NUMBER: 630-08-0

STATE: (37) NORTH CAROLINA
JUL 1998

SITE ID: 37-183-0011 POC: 1
COUNTY: (183) WAKE
CITY: (950000) RALEIGH
SITE ADDRESS: 420 S PERSON ST
SUPPORT AGENCY: (0776) NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT
SITE COMMENTS: CAROLINA POWER ELECTRIC METER NO. 1052352 OR 33000
MONITOR COMMENTS: 11
MONITOR TYPE COUNT: 1
UNITS: 007 PPM

AQCR: (196) EASTERN PIEDMONT
URBAN AREA: (9535) RALEIGH, NC
LAND USE: COMMERCIAL
LOCATION SETTING: URBAN AND CENTER CITY
MINIMUM DETECTABLE: .5
REPORTING ORGANIZATION: (0776) NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT

LATITUDE: 35.774375
LONGITUDE: -78.63519
UTM ZONE: 17
UTM NORTHING: 3961343
UTM EASTING: 713781
ELEVATION-MSL: 111.0
PROBE HEIGHT: 3.0
INTERVAL: 1

COLLECTION AND ANALYSIS METHOD: 054 INSTRUMENTAL NONDISPERSIVE INFRARED

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MEAN
01 W	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.6	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.5	0.6	0.7	1.2	1.0	0.9	0.9	1.1	0.3	24	0.50
02 H	0.3	0.3	0.3	0.5	0.3	1.0	1.2	1.1	1.0	0.8	0.7	0.6	0.6	0.7	0.5	0.6	0.5	0.3	0.5	1.0	1.2	1.6	0.9	0.7	24	0.71
03 F	0.6	0.3	0.5	0.5	0.5	0.9	1.0	0.8	1.0	1.0	0.8	0.8	0.5	0.7	0.9	0.7	0.7	0.5	0.8	1.5	1.6	1.9	1.9	0.8	24	0.88
04 S	0.5	0.3	0.3	0.5	0.3	0.8	0.6	0.5	0.3	0.6	0.5	0.3	0.3	0.3	0.3	0.5	0.3	0.5	0.5	0.3	0.5	0.5	0.6	0.7	24	0.43
05 U	0.6	0.5	0.5	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.9	1.1	1.0	0.8	0.7	24	0.69
06 M	0.5	0.3	0.3	0.5	0.7	1.2	1.4	1.0	0.7		0.6	0.6	0.7	0.6	0.7	0.8	0.9	0.8	0.8	1.1	1.3	0.7	0.6	0.3	23	0.74
07 T	0.5	0.5	0.6	0.5	0.6	1.3	1.6	1.1	0.9	0.7	0.6	0.6	0.7	0.6	0.7	0.8	0.9	0.9	0.7	0.8	0.9	0.8	0.7	0.7	24	0.78
08 W	0.5	0.3	0.3	0.3	0.3	0.6	0.9	0.8	0.6	0.5	0.6	0.6	0.7	0.6	0.6	0.7	0.7	1.0	1.1	1.1	1.2	1.2	0.9	0.8	24	0.70
09 H	0.6	0.5	0.5	0.3	0.3	0.8	0.9	1.1	1.1	0.8	0.8	0.8	0.7	0.9	0.8	1.0	0.9	0.7	0.9	0.8	0.8	0.7	0.8	0.6	24	0.75
10 F	0.5	0.5	0.3	0.3	0.6	1.4	1.4	1.1	1.1	0.7	0.8	1.0	0.8	0.9	1.0	0.8	0.9	1.0	0.8	0.9	0.7	1.0	1.2	1.4	24	0.88
11 S	1.2	0.9	1.0	0.6	0.3	0.6	0.7	0.5	0.8	0.6	0.7	0.6	0.6	0.5	0.7	0.6	0.6	0.6	0.8	1.1	1.0	1.2	0.9	0.8	24	0.74
12 U	0.6	0.6	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.6	0.9	0.8	0.7	0.5	24	0.44
13 M	0.3	0.3	0.3	0.6	0.9	1.4	1.8	1.4	0.8	0.5	0.6	0.5	0.5	0.6	0.5	0.5	0.7	0.5	0.6	0.8	1.0	0.9	1.0	0.8	24	0.74
14 T	0.9	0.6	0.6	0.6	1.0	1.7	1.7	1.0	0.6	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.9	1.1	0.9	0.6	0.3	24	0.70
15 W	0.3	0.3	0.3	0.5	0.8	1.6	2.0	1.2	0.8	0.6	0.6	0.7	0.6	0.5	0.6	0.7	0.8	0.9	0.8	0.9	0.7	0.7	0.5	0.3	24	0.73
16 H	0.3	0.3	0.3	0.3	0.3	0.8	1.2					0.5	0.6	0.8	0.5	1.2	0.9	1.0	1.5	0.8	0.8	0.8	0.5	0.3	20	0.67
17 F	0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.8	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9	1.4	0.9	1.0	1.0	0.7	0.6	0.7	24	0.65
18 S	0.7	0.6	0.5	0.5	0.3	0.6	0.6	0.8	0.9	0.7	0.7	0.6	0.6	0.8	0.7	0.8	0.7	0.9	0.8	1.2	1.7	1.7	2.5	2.2	24	0.92
19 U	1.8	2.3	2.1	0.7	0.7	1.0	0.8	0.9	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.3	24	0.78
20 M	0.3	0.3	0.3	0.3	0.5	0.7	0.7	0.7	0.6	0.5	0.5	0.7	0.6	0.5	0.5	0.7	0.6	0.6	0.5	0.5	0.7	1.1	0.8	0.5	24	0.56
21 T	0.3	0.3	0.3	0.3	0.3	0.7	0.8	0.7	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.6	0.6	1.0	0.9	1.1	0.7	0.5	24	0.60
22 W	0.3	0.3	0.3	0.3	0.3	0.6	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.5	0.5	0.6	24	0.53
23 H	0.6	0.5	0.3	0.6	1.0	0.9	0.7	0.7	0.5	0.5	0.3	0.5	0.5	0.5	0.6	0.7	0.7	0.6	0.7	1.1	1.7	1.3	0.8	0.6	24	0.70
24 F	0.5	0.3	0.3	0.3	0.5	0.5	0.8	0.9	1.0	0.9	0.9	0.8	0.9	0.7	0.7	0.8	1.0	1.0	0.9	0.7	0.5	0.6	0.7	0.9	24	0.71
25 S	0.8	0.6	0.5	0.5	0.6	0.9	1.1	0.9	1.0	0.7	0.7	0.8	0.6	0.7	0.7	1.0	0.9	1.1	1.1	1.4	1.0	1.2	1.2	0.9	24	0.87
26 U	0.7	0.7	0.5	0.5	0.3	0.3	0.5	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.7	0.7	1.0	1.2	0.7	0.6	0.5	0.3	24	0.63
27 M	0.3	0.3	0.3	0.3	0.5	0.9	1.0	0.8	0.6	0.6	0.6	0.6	0.7	0.6	0.5	0.8	1.1	0.8	0.6	0.7	0.7	0.6	0.6	0.6	24	0.62
28 T	0.6	0.5	0.5	0.6	0.6	0.7	1.0	1.2	0.8	0.7	0.7	0.8	0.8	0.7	0.7	0.9	0.8	0.7	0.8	1.6	2.1	2.5	1.5	1.0	24	0.95
29 W	0.8	0.7	0.8	0.7	1.1	1.2	0.9	0.8	1.0	1.0	0.8		0.8	0.6	0.7	0.7	0.8	0.8	0.9	1.3	1.5	1.2	0.7	0.7	23	0.89
30 H	0.5	0.5	0.5	0.5	0.8	0.8	0.9	1.0	0.9	0.9	0.8	0.6	1.4	1.3	0.8	0.9	0.7	0.8	0.9	1.1	0.8	0.7	0.9	0.6	24	0.82
31 F	0.6	0.5	0.5	0.5	0.8	1.0	0.9	1.0	0.7	0.6	1.0	1.2	0.9	0.8	1.0	1.2	1.0	0.8	0.7	0.8	0.8	0.8	0.6	0.7	24	0.81
NO	31	31	31	31	31	31	31	30	30	29	30	30	31	31	31	31	31	31	31	31	31	31	31	31		
MAX	1.8	2.3	2.1	0.7	1.1	1.7	2.0	1.4	1.1	1.0	1.0	1.2	1.4	1.3	1.0	1.2	1.1	1.4	1.5	1.6	2.1	2.5	2.5	2.2		
MEAN	0.55	0.48	0.45	0.43	0.51	0.83	0.96	0.85	0.73	0.63	0.61	0.61	0.63	0.63	0.63	0.73	0.74	0.74	0.78	0.96	1.00	0.99	0.86	0.67		

MONTHLY OBSERVATIONS 738 MONTHLY MEAN 0.70 MONTHLY MAXIMUM 2.5

SHADED ITEMS EXCEEDED PRIM. STANDARD OF 35.5
BOLDED ITEMS EXCEEDED SEC. STANDARD OF 35.5

Reduced Frequency Distribution (AMP260)

Required fields: Begin/End Date AND Parameter Or Geographic qualifier

EPA United States Environmental Protection Agency

Air Quality Subsystem
REDUCED FREQUENCY DISTRIBUTION REPORT

Jan. 24, 2002

Parameter: (42101) Carbon Monoxide
State: (37) NORTH CAROLINA

County / County - Site	Year	POC	Duration	Unit	EDT	PCT Obs	NBR Obs	Agency Type	Percentiles								Max Obs	2nd Max	Min Val	Arith Mean		Arith STD
WAKE																						
183-0011																						
	1998	1	1 HOUR	PPM	0	98.8	8674	F	**10**	**25**	**50**	**75**	**90**	**95**	**98**	**99**	1	2	.3	1.0800		0.9000
									.25	*.6*	*.8*	*1.2*	*2.1*	*3.1*	*4.1*	*4.8*	**7.6**	**7.3**				
		1	8-HR RUN AVG END HOUR	PPM	0		8705	F	**10**	**25**	**50**	**75**	**90**	**95**	**98**	**99**	1	1	.3			
									.5	*.7*	*.9*	*1.2*	*2*	*2.7*	*3.5*	*3.9*	**5.5**	**5.5**				
WAKE																						
183-0015																						
	1998	2	1 HOUR	PPM	0	34.9	3069	F	**10**	**25**	**50**	**75**	**90**	**95**	**98**	**99**	1	2	.3	0.3800	*	0.2800
									.25	*.25*	*.25*	*.25*	*.8*	*1*	*1.3*	*1.6*	**1.9**	**1.9**				
		2	8-HR RUN AVG END HOUR	PPM	0		3163	F	**10**	**25**	**50**	**75**	**90**	**95**	**98**	**99**	1	1	.3			
									.3	*.3*	*.3*	*.4*	*.7*	*.9*	*1.1*	*1.3*	**1.8**	**1.8**				

Site Description (AMP380)

Required fields: Geographic parameter.

EPA United States Environmental Protection Agency

Air Quality Subsystem
SITE DESCRIPTION

Jan. 24, 2002

Site ID : 37-183-0003 **Site Name :** **Local ID :**
Street Address : FIRE STATION #9 SIX FORKS RD NORTH HILLS **City :** RALEIGH
State : NORTH CAROLINA **Zip Code :** **County :** WAKE
Location Description : AIR MONITORING STATION **Location Setting :** SUBURBAN
Coll. Method : GPS CARRIER PHASE STATIC RELATIVE POSITION **Land Use :** COMMERCIAL
Date Established : 19720101 **Date Terminated :** **Last Updated :**
Regional Eval. Date : **HQ Eval. Date :** 19840626
MSA : RALEIGH-DURHAM-CHAPEL HILL, NC **CMSA :** **AQCR :** EASTERN PIEDMONT
Type Met Site : **Dist to Met. Site (m) :** **Direct Met Site :** **Met. Site ID :**
Urban Area : RALEIGH, NC **Local Region :**
City Population : 150255 **Dir. to CBD :** NE **Dist. to City (km) :** **EPA Region :** ATLANTA
Census Block : **Block Group :** **Census Tract :**
Vertical Measure (m) : 125.0 **Congressional District :** **Class 1 Area :**
Site Latitude : 35.841111 **Site Longitude :** -78.643056 **Time Zone :** EASTERN
UTM Zone : 17 **UTM Northing :** 3968690 **UTM Easting :** 712875
Accuracy : 3.04 **Datum :** UNKNOWN **Scale :** 24000 **Point/Line/Area :** POINT

Site Comments
FILTERS SENT TO EPA ON 12 DAY SCHEDULE CAROLINA POWER ELECTRIC METER NO. NO METER {FIRE STATION HOOK UP}

Monitor Statistics		Agency				
Monitor Type	# of Monitors	Role	Agency Desc	Begin Date	End Date	
OTHER	38	SUPPORTING	NORTH CAROLINA DEPT NATURAL RESOURCES&COMMUNITY DEVELOPMENT			
SLAMS	1					

Road Number	Road Name	Traffic Count	Traffic Year	Traffic Volume Source	Road Type	Compass Sector
1	UNKNOWN	49700			MAJ ST OR HY	UNK

Violation Day Count Detail (AMP300)

Required fields: Date and parameter must be specified.

United States Environmental Protection Agency

Air Quality Subsystem
Violation Day Count - Detail Report

Jan. 24, 2002

Ozone (44201)
PPM
1 HOUR

MSA: RALEIGH-DURHAM-CHAPEL HILL, NC
State: NORTH CAROLINA **County:** WAKE
Year: 1998 **Site ID:** 37-183-0014 **POC:** 1

Date of Violation	Max Value	Hour of Max Violation	# of Primary Violations	# of Secondary Violations	# of Non-Overlapping Violations	EDT
19980914	.093	10	4	4		0
19980913	.101	10	6	6		0
19980902	.085	10	2	2		0
19980901	.094	10	4	4		0
19980823	.096	10	6	6		0
19980822	.109	10	7	7		0
19980821	.086	10	2	2		0
19980724	.085	10	1	1		0
19980914	.089	10	3	3		0

Violation Day Count Summary (AMP300A)

Required fields: Date and parameter must be specified.

United States Environmental Protection Agency

Air Quality Subsystem
VIOLATION DAY COUNT SUMMARY

Jan. 24, 2002

Ozone (44201)
PPM
8-HR RUN AVG BEGIN HOUR

MSA: RALEIGH-DURHAM-CHAPEL HILL, NC

Date of Violation	Max Violation Value	Highest Violation Site	State	County	Max Violation Hour	Count of Violating Sites	EDT
19980603	.09	37-183-0015	NORTH CAROLINA	WAKE	10	2	0
19980618	.09	37-183-0016	NORTH CAROLINA	WAKE	11	3	0
19980620	.089	37-183-0017	NORTH CAROLINA	WAKE	10	2	0
19980622	.087	37-183-0016	NORTH CAROLINA	WAKE	9	2	0
19980623	.091	37-183-0017	NORTH CAROLINA	WAKE	9	3	0
19980625	.099	37-183-0016	NORTH CAROLINA	WAKE	9	2	0
19980626	.11	37-183-0017	NORTH CAROLINA	WAKE	10	3	0
19980627	.086	37-183-0017	NORTH CAROLINA	WAKE	9	1	0